

Apple2000

THE NATIONAL APPLE USERS GROUP



APRIL 1987

VOLUME 2 (2)



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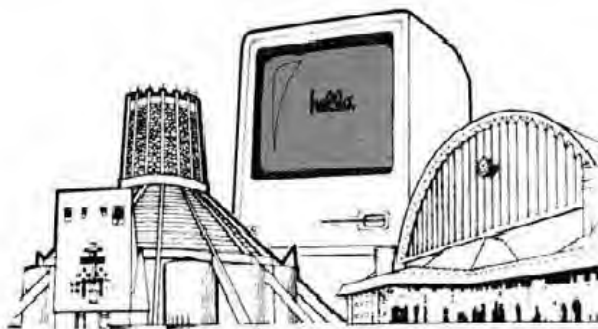
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University Centre
5 Allsop Arcade
Brownlow Hill
Liverpool
Tel: 051-709 5959

Apple2000

FOR ALL APPLE USERS

The Editorial Team

Editor

Jim Panks

Macintosh Editor

Norah Arnold

Assistant Editors

Graham Attwood
Keith Chamberlain
Ivan Knezovich

Photography

David Davies

Advertising

Julie Panks

Administration

Sheila Hirst - 01927 710000

HotLine

Dave Ward - 01927 710000
Monday - Friday 1900-2100 hours

BABBS

Tony Game - 01927 710000

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P.O.Box 177, St Albans,
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EDITORIAL

Exciting Times Ahead!

The rumour factory has now wound down and the new products are out of the bag.

This issue contains the announcements and we are actively putting together more detailed articles on the new machines and peripherals.

The whole Apple scene is changing and will be an exciting time for all those involved. The major benefits will be to you the USER

Software Scene

The IIGS scene is hotting up with new software expected by the time you read this.

On a recent visit to MGA at Tenderden I was able to see at first hand the amount of effort being put into the acquisition of software from the United States.

Along with Bidmuthin and MacSerious, MGA have pulled out all the stops in an attempt to bring the latest software into the U.K. Certain products are getting through now and this trickle will become a flood in the next month or two.

Good News!

Members who attended the recent Apple Show 87 will have seen and heard the good news from Apple.

Things do seem to be looking up for Apple now that they have got the whole act together, this means that your group will also grow. Over the last six years the group has mirrored the fortunes of Apple.

As we head towards what already promises to be a good

year, we are busy planning the groups future.

Our Future

At the A.G.M., with my Chairman's hat on, I was able to give those present a summary of our achievements during the last year and also our hopes for the next.

We have plans that will further our aim of providing Apple Users with information and help, whatever variety of Apple they have.

These include:

- A bi-monthly newsletter entitled 'Apple Slices' which will keep you informed in between regular journals.
- Workshops to help you get 'hands on' experience and enable you to get more from your machine.
- Courses at a reasonable cost, but with professional standards to delve deep into those vital applications.
- A 'Developers Group' to ensure that the more technical minded can exchange ideas and techniques.
- Support for local groups. We will be building on last years involvement and experiences.

The only thing we ask of the membership is support, encouragement, and feedback.

Any ideas for enhancements are always welcome, so drop us a line if you have any ideas.

Improvements

The journal has improved over the last year and will continue as we learn to master the new DTP technologies, however we can

only change the style, type and cover. We rely on you the membership to keep it alive.

Many members have contributed and they are still around to tell the tale, we are actively encouraging a more lively journal and this is where every member has a role to play.

We need your input and as long as it has some connection with the use of the Apple machine it will be received and used.

Many members use the excuse that they are not very good at writing articles to prevent submission. As from this issue that is not a problem, we have a group of members who will sub-edit and knock your articles into shape. What we need is the substance from you the membership.

The new system may mean slight delays in articles appearing in print but that is one delay I am willing to accept if it means the journal will have new life.

COMMENT

VapourWare

We use DTP to produce 90% of our journal and as such we are in a position to comment on the suitability of software.

We have until recently been recommending PageMaker 1.2 as the 'de facto' standard for serious use. Other products have arrived that are equal or better and cost less. We have been told on many occasions that version 2.0 will be released. Because of this we have resisted the urge to change, even under considerable pressure from other vendors.

We have been impressed with the service offered by Aldus in the past but five months is a long wait and is now testing our patience.

Come on ALDUS 'pull your finger out' and let's have less of the VAPOURWARE.

This column brings me to a full year of operating as Apple2000's representative in trying to help Apple users throughout the U.K. make contact with each other and to start up or get organized. During that year our list of known clubs/groups has grown from 12 to the current 26.

During the next twelve months we intend to come along to more local meetings in order to :

1. learn from you.
2. find out what you want from Apple2000.
3. make and renew friendships.

Apple U.K.'s recent formation of a User Group Council in conjunction with their continuing support is going to be a big help to us all. Some local groups have already benefitted from visits by Mary Ainsworth, Andy Seymour and others to their meetings, and it is anticipated that this very useful support from Apple U.K. will continue.

Right now down to business!

NORTHANTS GROUP

If you are in the area of Potterspury, Northants and interested in helping to start a new group please contact Mr Morgan, 7, Northway, Potterspury, Northants, NN12 2PW.

APPLE II PROGRAMMERS CLUB

Philip Dixon has found a venue at the Apple Centre North East, in Ponteland. Anybody in the area who is currently missing out on this opportunity please contact Philip to find out more, all Apple users are invited to join in.

MACTAFF

The last few meetings have gone well with communications being the topic for the last meeting.

Lorraine Thornback is now Events Secretary and she will be happy for anybody to suggest ideas for future meeting topics.

EAST OF SCOTLAND GROUP

Growth in this group is partly due to the excellent support provided to them by Proteus/McQueen.

The group is looking forward to a CAD/CAM evening at Napier College in the spring. Great bunch of people in this group and they are getting excellent dealer support, if you haven't looked them up yet you really are missing out.

LOCAL GROUP NEWS

Gripping stuff from our roving Local Group Evangelist Tom Wright

GLASGOW GROUP

This group is well under way now. Proteus Microsystems provide the venue and Communications is the topic for the June 10th meeting which will be held at 7.30 pm, venue is Proteus Microsystems, 17, Park Circus Place, Glasgow. All Apple users are welcome.

HANTS & BERKS GROUP

About 25 members in the group which has achieved some recruitment during recent months. Members include GS owners so if you are thinking about the GS you should be able to get some advice. All Apple users are welcome.

BAUD

The Bristol Apple Users & Dabblers may be changing their venue soon. Decimal Business Machines have offered the use of their premises. Meetings have been on a largely informal basis but a more structured format is being considered. Contact Mike for more information.

EAST MIDLANDS MAC GROUP

Members had an interesting meeting which featured Cricket Draw. They have tried to arrange a session on Mac comm's via Appletalk but didn't find the process to be too straightforward. Contact Nick for more details of this interesting group of Mac Users

FURNESS AREA

Very good news from Tom Iddon. Alan Curtis organized a relaunch of a group for this area on the 2nd February and the response was encouraging. There has been low activity in this area and this initiative deserves support so contact Alan for more details.

GATEWAY COMPUTER CLUB

One of their current activities is the compilation of a list of dealers, shops, and repair facilities in the

area. Why not pop along to one of the meetings and see what you're missing.

CAMBRIDGE APPLE USER GROUP

Meetings usually see a hardcore of about 12 members present with others dropping in occasionally. The venue is currently a little flexible so be sure to phone Ian Archibald before going to a meeting.

MIDAPPLE

The club's forward programme includes desktop publishing on April 10th, and Apple U.K. talking about new Apple products on May 8th. All Apple users are sure of a welcome at MidApple.

HERTS & BEDS GROUP

One of the best meetings that the group has had lately was on the subject of spreadsheets. Michael Irons, Colin Hunter and co. pulled all the stops out and everyone had a most enjoyable evening.

KENT APPLE GROUP

This group appears to be getting off to an energetic start. On only the third meeting 35 people turned up to see the new MacII and it sounds as if folks in that area have a good facility to hand. Give Richard Daniels a ring to find out more.

LIVERPOOL GROUP

This group is currently seeking a new venue, please contact Irene Flaxman for details.

Time and column space have caught up with me again. If there is anything that you want to see in the column, news of your group, help that you think we might be able to provide, or anything else, please write to me care of the P.C. Box

*Happy Apples to you all.
Tom Wright.*

LOCAL CONTACT GROUPS



Updated 15th March 1987

APPLE II PROGRAMMERS CLUB

CONTACT - Phillip Dixon TEL: (0494) 682111
VENUE - AppleCentre - North East, Ponteland.
MEETS - Check with Phillip.

BENTWATERS APPLE USER GROUP

CONTACT - John Thomas TEL: (0494) 212221
VENUE - R.A.F. Woodbridge
MEETS - 7.00pm first Tuesday of each month

BRISTOL GROUP (B.A.U.D.)

CONTACT - Mike Farmer TEL: (0800) 211111
VENUE - Bristol Maternity Hospital (May change)
MEETS - 7th day of each month, or the Friday nearest.

CAMBRIDGE APPLE USERS GROUP

CONTACT - Ian Archibald TEL: (0455) 331111
VENUE - Isora Cycle's, 72 Chesterton Rd, Cambridge
MEETS - Fortnightly

CROYDON APPLE USERS GROUP

CONTACT - Graham Attwood TEL: (081) 881111
VENUE - 515, Linsfield Road, Warrington, Surrey
MEETS - 7.30pm on the third Thursday of every month

EAST MIDLANDS MAC USER GROUP

CONTACT - Nick Helm TEL: (0692) 557777
VENUE - Welford Cricket & Rugby Club, Nottingham
MEETS - 8.00pm on the 1st & 3rd Wednesday each month.

EDINBURGH GROUP

CONTACT - Adam Chlinsky TEL: (031) 5442491
VENUE - Proteus Micro Systems, 55, Frederick Street.
MEETS - Monthly. Check with Adam.

ESSEX GROUP

CONTACT - Pat Bermingham TEL: (0464) 281111
VENUE - The Y.M.C.A., Victoria Road, Chelmsford
MEETS - Third Friday of every month

FURNESS AREA

CONTACT - Alan Curtis TEL: (0524) 381111
MEETS - New activity check with Alan.

GATEWAY COMPUTER CLUB

CONTACT - Robert D Hall TEL: (0428) 717777
VENUE - Bob Hope Recreation Centre, R.A.F. Mildenhall
MEETS - Variable, check with Bob.

GLASGOW GROUP

CONTACT - Donald Davidson TEL: (041) 588111
VENUE - Proteus Micro Systems, 17 Park Circus Place.
MEETS - Quarterly, check with Donald

HANTS & BERKS

CONTACT - Mike Hollyfield TEL: (0793) 777777
VENUE - TVS, 128 High Street, Maidenhead.
MEETS - 7.00pm on the second Monday of every month

HARROGATE AREA

CONTACT - Peter Sutton TEL: (01937) 587777
No active organised group in this area but there are a number of local Apple users in contact with each other.

HERTS & BEDS GROUP

CONTACT - Norah Arnold TEL: (0494) 577777
VENUE - The Old School, 1, Branch Road, Park Street Village, St Albans, Herts.
MEETS - 8.00pm on the first Tuesday of each month

KENT GROUP

CONTACT - Richard Daniels TEL: (0732) 555555
VENUE - AppleCentre 5-11 London Road, Maidstone.
MEETS - 7.30 p.m. on last Monday of Month

LEICESTER GROUP

CONTACT - Bob Bown TEL: (0533) 333333
VENUE - Shakespeare Pub, Braunstone Lane, Leicester
MEETS - 7.30pm to 10.0pm on 1st Wednesday of month

LIVERPOOL GROUP

CONTACT - Irene Flaxman TEL: (051) 555555
VENUE - Check with Irene
MEETS - Second Monday of every month.

LONDON APPLE II GROUP

CONTACT - Chris Williams TEL: (01) 488111
VENUE - St Brides Institute
MEETS - Check with Chris

LONDON MACINTOSH GROUP

CONTACT - Maureen de Saxe TEL: (01) 488111
VENUE - Room 683, London University Institute of Education, Bedford Way, London, WC1
MEETS - 6.00pm on the second Tuesday of every month.

MACINTOSH USER GROUP

CONTACT - Patrick Winsterson TEL: (045) 221111
VENUE - Cambridge Area.
MEETS - Every three months. Check with Patrick.

MIDAPLE

CONTACT - Tom Wright TEL: (0527) 411111
VENUE - I.T.E.C., Tildesley Street, West Greenwich.
MEETS - 7.00pm on the second Friday of every month

THE MIDLAND MAC GROUP

CONTACT - Ivan Knezovich TEL: (0533) 411111
VENUE - Spring Grove House, Safari Park, Bewdley.
MEETS - 7.00pm on the first Tuesday of every month

THE NORTH WEST APPLE COMPUTER CLUB

CONTACT - Jim Rosco TEL: (0562) 111111
VENUE - Horse & Jockey Pub, Winwick Road, Warrington
MEETS - First Monday of every month

THE NORTH WEST APPLE USERS GROUP

CONTACT - Max Parrot TEL: (061) 555555
daytime: (061) 555555
VENUE - Staff House (2nd floor), University of Manchester - Institute of Science & Technology, P.O. Box 88, Sackville Street, Manchester
MEETS - 8.00pm on the last Thursday of each month.

MACTAFF - S.WALES MAC GROUP

CONTACT - Lorraine Thornback TEL: (0456) 222222
VENUE - AppleCentre, 47 Newport Road, Cardiff.
MEETS - 7.00pm on the 1st Thursday of each month.

POTTERSPURY AREA (New Group Forming)

CONTACT - E Morgan, 7 North Way, Potterspurty, Northants.

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the Macintosh.

One way of looking at
the new Macintosh SE.




To stay ahead in business you need a computer with plenty of performance.

The new Macintosh SE has more power and up to twice the speed to meet the demands of increasingly sophisticated business software.

And its more flexible so you can now create computer systems tailored to your specific needs and share information with other computers, regardless of their size or make.

However the only way to really assess the performance of the new Macintosh SE is to visit us for a test drive.

Because if you're not running a Macintosh, you could get left behind.

Apple. The power to succeed. 

APPLE, THE APPLE LOGO AND MACINTOSH ARE TRADEMARKS OF APPLE COMPUTER INC.

Big Mac's in Town !

A preview of the latest machines from Apple
By Jim Panks

Apple have survived the first ten years in the uncertain world of the computer and although they have had up's and down's the future looks good.

Apple(UK) decided to throw a birthday party and at the same time announce the next phase of the company strategy. The show started with a video presentation of the first ten years, accompanied by a stirring musical background, a montage of excerpts from various Apple advertising campaigns and a number of stills of the people and machines that have made Apple what they are today.

The whole event was staged simultaneously around the world and, in the usual Apple way, we were given a strong message of the way in which Apple is moving.

The Managing Director of Apple (UK), David Hancock, addressed the audience of Press and User Group officers. He said, "Apple's communi-

cations framework is based on building blocks which incorporate a consistent set of platforms for the development of further products. Such a strategy will enable Apple to apply its business solutions in a widening range of computing environments".

Mr Hancock then allowed his colleagues to take the platform for what was to be a formidable array of new product announcements.

Macintosh SE 'Son of Mac'

The first new product announcement was that of the new Macintosh SE (System Expansion). This looks likely to become the bottom of the range, although at present Apple say they will keep the Macintosh Plus and drop the Mac 512/800.

The SE is the same size as the MacPlus but has a new styling and colour. The platinum colour is the same as the GS and the styling resembles the GS - with grooves on the front. The grooves hide some of the brand new features. All SE machines are now fitted with two drives, either two

800k floppies or one 800k and a 20 Meg internal hard drive. A fan is now standard.

The back of the machine also has some new features, such as a little flap that hides a 96 pin expansion slot, two keyboard connectors and the usual interfaces. The first card to be available will be the Apple PC Drive card allowing the Macintosh SE to read data disks from IBM PC's or clones.

The expansion slot will be the saviour for the Mac as we know it. Plans are already in hand by third party developers to have a card cage outside the machine which will allow a selection of cards to be accessed by the Mac. These could be speed-up cards, video cards or even other processors. The Mac will live on, fuelled by the same third party involvement that made the Apple II such a success.

The Macintosh SE is in fact a totally different machine with the only old MacPlus components being the screen and disk drive. The logic board is redesigned with many of the old circuits and chips being put in a new Apple Very Large Scale Integration chip. The board is now of six layer construction instead of four and this is how the space has been made for the slot.

Other new features on the SE are the use of the Apple DeskTop Bus, similar to the GS, and allowing for a wider range of easily interfaced input devices. The Mouse is now linked to the keyboard and can be on either side, which makes it much easier for the left handed user.

The keyboard is a GS look alike with 81 keys and includes a numeric keypad with cursor keys. An option will be the new 105 key extended keyboard which should be available in July.

The ROM's in the SE have been upgraded to 256k. I suspect that Apple have made some use of the extra space and probably fixed any bugs found in the old ROM routines.

Although the machine contains the same Motorola 68000 chip found in the MacPlus and the processor speed is the



Macintosh SE with internal 20 Megabyte Hard Disk and single 800k Floppy Drive.

same, by good connections to the bus and the inclusion of the VLSI chip the speed has been increased by some 20% over the MacPlus.

The machine looked and worked as you would expect of a Macintosh. The speed increase was not really apparent on my trial, but I suspect that given a few days with it we could make some comparisons.

The news of this middle range machine was welcomed and the only blot I could find concerned upgrading a MacPlus. Because of the complete reworking of everything except the screen, an upgrade will not be offered.

I have a sneaking suspicion that the MacPlus has been placed in Death Row and that it will not be long before it is placed in a wooden box. Nevertheless, 'Son of Mac' is really a nice machine and it is a positive step into the corporate market.

Macintosh II 'Big Mac'!

The real surprise was the announcement of Big Mac. The Macintosh II arrived with no smoke (a la original Mac), just a slide on the screen and a very impressive demo of the real thing, but running in colour!

The Macintosh II is a three-box system containing a Motorola 68020 processor running at 15.7 MHz, a 68881 floating point chip and 1 Megabyte of RAM expandable to 8 Megabytes on board. It has 256k ROM and six NuBus slots which allow a total of 2 gigabytes of RAM. The Motorola 68851 Paged Memory Management Unit will be offered as an option to allow use of a new Apple UNIX system to be introduced later in the year.

The hardware configuration allows for options on disks, displays and keyboards. The Apple offerings are as follows:

Disk Options

- a) One 800k Drive.
- b) One 800k Drive and either 20,40 or 80 Megabyte Internal Hard Disk.

Screen Options

- a) 12" Monochrome display with 640*480 pixels resolution displaying 16 shades of grey.
- b) 13" RGB Colour display with 640*480 pixel resolution displaying 16 colours.
- c) Optional Expansion Card allowing 8 bits per pixel and up to 256 colours or shades of grey. The colour look-up table contains 16.8 million colours from which to choose the 256 colours.

Keyboard Options

- a) 81 key 'Eastwood' detachable keyboard with 10 key numeric keypad.
- b) 105 key 'Saratoga' keyboard which includes 15 function keys, 10 key keypad and T cursor pad.

Prices

The expected prices are:

Macintosh II with 1 Megabyte, one 800k Drive and Monochrome Monitor: **£4500**

Macintosh II with 1 Megabyte, one 800k, 40 megabyte

internal hard drive and monochrome monitor: **£5500.**

No prices for colour have been announced yet.

As you can see, this machine is a real giant-killer and is designed to hit the top end business, education and CAD/CAM market. No holds barred, Apple mean to attack the market and this is the machine to do that.

The Macintosh II runs at a blinding pace, and like the SE, will run almost all Macintosh Software. We saw MORE, Mac Project and other standard software running five to six times faster without any problems and with colour.

Many Mac software packages have colour options available and are just waiting for the colour option to be made available. The time has now arrived and the new machine will have plenty of software right from the launch.

This does not mean that the machine will not get new software. I am sure that many developers are licking their lips and just can not wait to get their hands on it. The restrictions on RAM have been lifted and with room to manoeuvre the developers will have some really powerful applications out this year.

Some of the interesting facts about Macintosh II are that with the maths co-processor running it manages to exceed 2 Million Instructions Per Second (MIPS) and will perform mathematical operations 200

times faster than with the 68020 alone.

The NuBus slots allow 8, 16 or 32 bit data paths and are processor-independent. The ability of any card on NuBus to perform at its own speed without interference from the 68020 means that



The new Macintosh II with internal 40 Megabyte Hard Disk and external Apple tape back-up.

other processors, running faster, can be added later.

Apple have stated that the slots will allow third party developers to produce hardware that will enhance the machine.

This is a return to the Apple II days when because of the enhancement aspects the Apple II became such a success, more Apples ran CP/M than any other make just because the slots were present. Hopefully, the Macintosh II will follow in the footsteps of the Apple II.

Apple have been slowly standardising peripheral equipment, such as drives and keyboards and this trend continues with the Macintosh II.



The new Macintosh II

The Apple Desktop Bus is again used for keyboard and mouse connection. AppleTalk is fully supported and this will allow Mac SE, Mac II and IIGS's to talk to each other and eventually to the IBM PC. Three and a half inch drives and the SCSI hard disk are now standard.

Apple have started to offer a substantial number of storage options and the range of devices both internal and external should satisfy most users.

Conclusions

After months of waiting we are presented with the first pair of new open Macintosh machines. Apple has survived

the internal arguments of where to go next and thankfully the right side have won.

By opening the Macintosh, Apple will bring back the spirit of enterprise which surrounded the Apple II.

Now we will see a resurgence of third-party developers working on hardware and software designed to compliment the basic machine. I have already seen advertising for third-party colour monitors and more peripherals can be expected before the machines are much older.

The Apple range of machines now cover the whole spectrum, with the Apple IIGS at the bottom providing a useful

tool for the small office or business.

The Macintosh SE covers the middle range with the ability to provide the solutions for most medium-sized tasks. If you add a network you have the ability to share applications, data, and printers.


We now have

the top of the range Macintosh II which will enable many of the mini-computer type applications to be performed at a much reduced capital cost.

The new machines would appear to be fairly priced if you look at the prices of competing machines.

The future looks good for Apple and for those using Apple machines. Apple have started to pull back the price restrictions on owning powerful state of the art machinery and I am sure that we will see this price/power ratio tumble in the next year.

I am sure the new machines will bring the success Apple deserve.

Well done Apple! 

Specifications

Macintosh SE

Processor: Motorola 68000
32 bit internal architecture
7.8 MHz clock speed.

User Memory (RAM): 1 megabyte expandable to 4 megabyte on board.
System Firmware (ROM): 256 kilobytes
Disk Storage: 2 internal 3.5" 800k double-sided drives or 1 internal 3.5" 800k double-sided drive and 1 internal 20 megabyte SCSI hard drive.

Monitor: 9" bit-mapped display screen with 512 x 342 pixels.

Keyboard: 81 key Apple Desktop Bus keyboard with cursor keys & integral numeric keypad or 105 key extended keyboard.

Mouse: Apple Desktop Bus compatible with mechanical tracking optical shaft.

Interfaces: 2 x mini-8 RS-232/RS-422 serial ports, DB-25 external SCSI parallel port, External Disk Interface, 2xApple Desktop Bus connectors, Sound Port, Internal 96 pin system expander (CPU bus connector)

Sound Generator: 4 voice sound with 8-bit digital-analog conversion using 22Khz sample rate.

Size: (Main Unit) 13.5"(H):9.7"(W):10.9"(D)
Weight: 17 to 21 pounds depending on configuration.

Macintosh II

Processor: Motorola 68020
Full 32 bit architecture
15.7Mhz clock speed.

Coprocessor: Motorola 68881 floating point. (IEEE standard).

User Memory (RAM): 1 megabyte expandable to 8 megabytes on board. 2 gigabytes using NuBus slots.

Memory Management (Optional): Motorola 68851 Paged Memory Management Unit (PMMU).

System Firmware (ROM): 256 kilobytes
Disk Storage: 1 or 2 internal 3.5" 800k disk drives; 20, 40, 80 megabyte internal SCSI hard drive. (User definable options).

Monitor (Options): 12" analog monochrome monitor (640x480 pixels) or 13" analog RGB display. Optional Colour card for 256 colour palette.

Keyboard: As Macintosh SE.

Mouse: As Macintosh SE

Interfaces: 2 x mini-8 RS-232/RS-422 serial ports, DB-25 external SCSI parallel port, 2xApple Desktop Bus connectors, Stereo Sound Port, 6 x internal 96 pin NuBus slots, Internal SCSI connector, 2xinternal disk drive connectors.

Sound: Custom digital sound chip with 4 voice wave table synthesis and stereo sampling generator.

Size: (Main Unit) 5.5"(H):18.7"(W):14.4"(D)
Weight: 24 to 26 pounds depending on configuration.

Editors note:

This article has been written after only a brief appraisal of the new machines. Further in depth articles will appear as soon as we have the machines to test. Thanks to the staff at Apple(UK) for answering the mirade of questions.

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(Illustration shows graphics RamDesk Manager on an enhanced Apple IIe. A text version of RamDesk Manager is also included for use on other models.)

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OMNIS NEWS

Contributed by the Blyth Software
Product Support Department.

Here once again are some Omnis Users' queries and comments.

We are particularly grateful to our users for sending us a more or less continuous supply of thought provoking material, although of course many of the questions we answer have cropped up before in one form or another.

Our Product Support Department here at Blyth is about to expand; we are to be joined by another two members. They will help us continue to supply an excellent support service to registered users during their first year of registration. This service is included in the initial cost of buying Omnis.

We are shortly to begin a scheme whereby users may re-register for support after their first year, for a very reasonable fee. This service will enable Omnis users, we have no doubt, to use their superb program well into the 21st Century, at a minimal cost.

M. Atkinson,
London, S.E.1.

We would like to be able to identify between records which are almost identical in content, and where the differences which exist are in non-indexed fields.

Can we get access to the sequence number which I understand each record has?

ANSWER

Yes you can. Each file format has its own set of sequence numbers starting from number 1, and each record is given a record sequencing number when it is inserted into the file.

The number is specific to that record and is never re-assigned to another record or re-used if the record is deleted. It is a reliable

way, therefore, of identifying a particular record.

Create a field in the file format and specify it as type 'sequence' within the file format. This will be auto-matically indexed, but will not be using one of the 12 index-able fields allowed in file format.

This 'sequence' field can then be used on your layout as a fast and efficient finding method.

J. Filby,
Morecambe
Lancs.

We use a system of re-ordering the same stock item which differentiates between colours and sizes. As there is an overall limit on the actual number we can order, we would like to be able to do a running total.

Is it possible to do this on the entry layout?

ANSWER

Overlapping fields, 'sliding' one field beneath another, is a way of getting running totals onto your entry screen.

Create a calculated field which calculates the sum of all the entry fields, and give it the attribute LOCAL.

This calculated field has to be placed after each entry field in field number order, so that the two are side by side.

Change the length of the left hand field until it overlaps the field on the right. Then move the right hand field to the left until the first characters of both fields are superimposed one onto the other.

When the current entry is updated, the local calculated field to the right of it will be re-calculated, producing a running total.

This will be the 'check' on your proposed stock orders.

C. Plummer,
Welwyn Garden City,
Herts.

I understand that the maximum character length I can use for data is 79; when I try, I can only get in 60 characters.

What am I doing wrong?

ANSWER

Removing the button margin is the answer. This will give you the full 79 character width.

When you select this command, the field, rectangle and reorder buttons disappear and the scroll bar shifts to the right of your screen.

The commands on the buttons are available on the DESIGN and AMEND LAYOUT menu from the top bar. When entering data, you will have to press RETURN to get your data accepted, and SHIFT-RETURN to cancel the operation as the OK and CANCEL buttons will also have been removed.

B. Edwards,
London, S.W.20.

My data on the products I sell is listed according to codes such as the following :- CA001, CA002; CB001, CB002, etc.

What I would like to be able to do is to print out reports with all the records with the first two digits of the same type on one page, the next two digits of the same type on the next page and so on. How do I do this?

ANSWER

Give your product codes a normal Field Name, say ECODE. Then create a calculated field, say, #S1, and give it the calculation :- MID (ECODE, 1, 2) .

This gives the value of the first two digits of the record in the field ECODE.

Insert the calculated field at the head of the report layout.

Write a sort to use when printing out the reports you want ordered in this way.

Sort on #S1, and click on the box for next page.

Remember, the calculated field has to be the first field in the layout in order to be used in a sort specification.

Any further re-ordering required if, for example, codes have been deleted and re-inserted at a later date, can be achieved by using a second sort on the field ECODE in ascending order i.e. no boxes are checked including the descending box.

A request for help with a different application nevertheless relies on the same type of solution.

O.Barrett,
Barking, Essex.

I produce most of my financial reports in date order, and would like the subtotals, which are working well, to also be produced in date order.

ANSWER

We'll give the date field you want to sort on the field name EDATE.

Again, take any numeric field, e.g. #S1, from your database and specify it as a calculated field. Give it the calculation :-

:DTM (EDATE)

Sort on that numeric field with the subtotals box checked. Remember to put this field right at the top of the report layout, over the heading section.

Pat Harding,
Newcastle,
Staffs.

My staff will sometimes leave out details from a record on our Omnis 3+ database.

If the information they are drawing from to input data is insufficient or unreadable, or they suspect it is inaccurate, the relevant field is just left empty.

I would like to be able to stop them doing this. I have tried messages on the screen, but it doesn't always work.

ANSWER

You can build a check calculation into the field attributes of any or all of the fields on your entry screen.

For the field name LDOB, the calculation will be :-
: LEN (LDOB) > 0

This guarantees that the string entered in that field will be greater than 0, that is, something has to be entered.

If the user tries to go to the next field in the entry layout without inserting into the checked field, a message comes up advising that the calculation has not been met.

The record is not accepted until an entry has been made in all the fields which have this check calculation.

Omnis Experts out in the open!

The business uses of Omnis are vast and if you have an Apple II or Macintosh you can enjoy the power even more.

As from June we will be holding workshops and Blyth Software have agreed in principal to provide some Omnis Advice.

Along with other experts we are planning a clinic type of approach to help members.

Whilst we hope to have a structured session on making the most of Omnis we believe the open approach will help members more.

So why not come along and meet our Omnis Experts who will ensure that you leave with answers to your particular Omnis problem.

Once again thanks to Pammie at Blyth Product Support for the information.

I would like to remind members that Apple2000 now carries out all Database functions using Omnis Products.

The latest database to be put to work under Omnis 3 runs on the Apple IIGS and keeps all our IIGS Compatibility and Selector Information.

We are grateful to Blyth Software for supplying their products and for all the help and support given in such a friendly way.

Apple2000 has launched a developers group and Omnis developers are welcomed. The next meeting of this group will be on the 16th May 1987 at the MICE/87 Show.

MEMBER'S SMALL AD'S

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MacPlus (Brand New & Boxed)
800k External Drive.
Mac Write/Paint
£1800 ono
Eddie Allen

WANTED

DESPERATELY WANTED
by 'A' level mathematician I
'Cartesian' by Flite software for //e
Lee Harris

FOR SALE

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As new £230 o.n.o
Colourprint (Esoft Enterprises)
colour printing on IWriter II
Brand New & Shrink Wrapped £32
Ken Gaston

FOR SALE

XEBEC 10Meg Hard Drive
Apple Compatible with interface,
software and manual.
Mint - Unused - £340
Nigel Teers

WANTED

D.O.S. 3.3(e) Version of:-
DISASM
BUGBYTER
EDASM
ProDOS Version of AppleWriter II
Jeremy Quinn

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Apple IIGS.
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FOR SALE

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Vicki Blundell



The Pawn



Review of the Apple II and Macintosh Adventure By Guy and Richard Wilday

Summary

We had two versions of the game to play with. One was an Apple II version and the other was for the Macintosh.

Although we cannot understand why the excellent graphics capability of the Apple II has been ignored, we found the game an enjoyable problem solving adventure in spite of the shortcomings described below.

Presentation

Both packages were identical except for a label signifying the version and the appropriate format of the disk.

The general presentation was excellent and the package comprised a neat blue box containing a 62-page book entitled 'A Tale of Kerovnia', a full colour poster of the design on the cover of the box, two small booklets (a game play booklet and a machine specific Key guide) and the program diskette.

Apple II Version.

We were particularly disappointed with the lack of graphics in the Apple II version, a point which is not mentioned in the packaging.

The Pawn is advertised as a new species of ILLUSTRATED Interactive Fiction and the back of the box shows three impressive screen views from the Atari ST version.

The game is only a text adventure similar to the now familiar and superior format of Infocom. Passage around the world of Kerovnia is achieved by directing the computer not only to eight points of the compass but also up and

down. All these commands can be abbreviated to letters, e.g. N, NE, D.

The Pawn boasts a revolutionary text-handling system which allows input of complicated sentences and complete interaction with the characters. In practice, this appeared plainly moronic rather than revolutionary.

For example, a request to "Knock on door", brings the reply "I can't find a door here", the reason being that, since a pair of doors is there, the player must demand "knock on doors" (plural). Problems also occurred in differentiating between 'stump' and 'tree stump'.



Picture of 'The Wizard' by
Richard Wilday

On one occasion 'asking' "Open the Fridge door" brought the strange reply "You can't see a rabbit here". This may seem quite amusing but it also proved very frustrating when testing many different sentence structures in an attempt to make the program respond sensibly.

Thankfully, the disk is without protection and back-up is encouraged. However, during play, it is essential to keep the book nearby, because, at an unpredictable point in the game, the player is asked to enter a word found in the book, the pages of which tell the story of events that took place in Kerovnia before the present quest.

The tale is quite humorous but it has no importance in solving the game, apart from the last few pages which include a 'Cypheric Help Section'.

When sheer desperation is reached and it becomes impossible to pass the dragon, then it is useful to type: HINT and scan the section in the book for the question that references the particular problem. Typing in of the first set of printed code causes The Pawn to recognize the cypher and translate it into a hint.

There can be as many as three clues from each question, increasing in information, but many questions will not be answered until you reach a preset score. In effect, you cannot have all the answers without working through the game. There are also embedded false clues!

We felt no need to resort to many of the hints, though the vocabulary often proved more of a problem.

One way to increase success with this sort of game is to save it at frequent intervals before falling into a trap. There is the facility to save eight different games on a formatted disk, and here we found another problem. Quite unexpectedly, data was corrupted on a saved game and could not be read. The program 'locked up' with a fatal error. This happened on four occasions, on different Apples

and with different disks.

Macintosh Version.

We tested The Pawn on the Mac and found there really were graphics. Finding them was a challenge but the booklet told us graphics were present.

The game booted with a black screen and white text, with four pull-down menus along the top, but the whereabouts of the pictures was not obvious. We tried typing 'Graphics ON' and the response was 'Graphics OFF'.

Display of the picture of Kerovnia requires the complete menu bar to be held, with the mouse button depressed, and pulled down like a roller blind. The scene revealed then changes during the player's journey.

Unfortunately, the screen dump had been disabled by the program, so we cannot provide a graphics example.

There was a printer command, but this was to provide a hard copy of the text on an Imagewriter, to allow the player to refer back when making further attempts to pass the dragon.

It transpired that the program was not without faults. At a point late in the game, we dropped one object in order to hold another and, later, when we came back for the object and picked it up for the second time the game ceased. We tried a different sequence of events, but every time we picked the item up for a second time the game froze.

Conclusion

On the whole, we had more enjoyment from playing the Macintosh version and there was certainly a reliable game-saving feature.

It is not unknown for programs on the Macintosh to 'crash', but we feel the faults in

both versions of The Pawn are in excess, and we would find great difficulty in recommending either version of the game unless these deficiencies are made good.

Despite this, the dedicated adventure addicts will no doubt wish to add The Pawn to their collections and we wish these players luck.

The Pawn (Apple II) £19.95
The Pawn (Macintosh) £24.95
Distributed by Rainbird Software.



Apple2000 welcomes
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letters on any Apple
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Apple D.M.P. Font Creator & Editor

By M LONG & D STEWARD

This program is a companion to the DOS toolkit character set converter, the program allows you to either load and edit a character set or to create your own character or graphics sets for down loading to an Apple DMP.

As with the toolkit converter the character set is stored from \$4000 to \$43BA. The controlling BASIC program loads the machine code program for loading the printer at \$7F6E.

THE BASIC PROGRAM.

The program allows the creation of your own fonts either characters e.g. BYTE.SET from the DOS toolkit or graphic sets such as the Frog sets from the toolkit. This enables the use of customized letter headings or enhancing printed articles and forms etc.

A second option allows editing of character and graphic fonts, either those created by the program or converted from the DOS toolkit. The program is menu driven and requires a single disk drive.

LIST OF VARIABLES USED

A\$ TEMP.
P\$ CURSOR POSN A-H.
X\$ CURSOR POSN 0-7.
T\$ TEMP.
E\$ NAME OF CHARACTER SET FOR EDITING.
F\$ ERROR MESSAGES.
R\$ INITIAL INPUT CHOICE Create, Edit or Quit.
N\$ NAME OF CHARACTER SET FOR SAVING.
L\$ SAVE PARAMETER
A(65) ARRAY WHICH HOLDS CHARACTER DATA (8*8).
M(8) ARRAY WHICH HOLDS 8 BYTES OF DATA FOR A CHARACTER.
A TEMP.
B TEMP.
C CHARACTER CODE.
E ERROR CHECKING.
F ERROR CODE.
L CHARACTER LENGTH.
X1-X8 USED TO CONVERT CHARACTER DATA IN ARRAY A(65) TO 8 BYTES IN ARRAY M(8).
M USED TO STORE POSN IN ARRAY A(65)
N AS ABOVE.
P USED TO CALCULATE ADDRESS OF CHARACTER DATA.
T POSITION OF CHARACTERS ON SCREEN.
PO ADDRESS OF CHARACTER DATA.
C1-C4 INPUT OF ASCII CODE FOR CHARACTER.
P1 STORES EITHER 1 OR 0 FOR TRANSFER TO ARRAY A(65).

PROGRAM INSTRUCTIONS.

The initial menu allows the choice between creating your own font or editing an existing font.

CREATING

You must first enter the ASCII code you wish to represent the character you are going to create. This must be in the range 32-127.

The character will be displayed as you plot each bit. The columns are referenced by the letters A-H and the rows by the numbers 0-7. The last referenced row and column will show up in inverse. To plot you press P and to rubout R. If the character is to have a descender then you press I and to cancel you press O.

When the character has been completed you enter N. When the set has been completed you enter S. You will then be asked if you have finished, if not you are returned to character entry once more.

On finishing you are given the option to view the character set on the printer. You will then be requested to input the name you wish to save the character set under. The character set is then saved and you are returned to the menu.

EDITING

The program will request the name of the character set to be edited. The set will then be loaded into the Apple's memory starting at \$4000. The same instructions as for font creation apply to the editing.

MACHINE CODE.

The machine code subroutine bypasses the printer card onboard software enabling code such as CHR\$(9), to be passed to the printer. This is written specifically for the Digitek Super Printmaster III parallel printer card in slot 1.

USING THE FONTS WITH APPLEWRITER II

To use the custom fonts with Applewriter you should first load the font into the DMP using the loader program and then boot Applewriter II, without switching off the printer.

To change to the custom font the DMP requires esc ' to be sent, this may be done within Applewriter by typing control V esc esc ' control V. You can return to the standard font by typing control V esc esc \$ control V.

CONCLUSION.

These programs were written for the Apple II+, Apple D.M.P. and Digitek Super Printmaster III interface card. The programs could be adapted to handle Epson FX80 and other printer character fonts.

In order to run with other cards the machine code subroutine will have to be modified, changes will need to be made to the address of the status register and the locations which bypass the card software.

KENT LOCAL GROUP

Meets on Last Monday of Month at 1930 hrs.
Venue: AppleCentre, London Road, Maidstone.

Contact: Richard Daniels on 01852 888888
For further details.

Listing on page 15

Listings for DMP Article on page 14

```

10 REM COPYRIGHT M LONG PRUDHOE
20 REM
30 REM & D STEWARD CORBRIDGE
40 REM
50 REM ENGLAND
60 REM
70 REM APPLE DMP FONTS
80 REM
90 REM CHA SET STORED AT $4000
100 REM
110 REM MACH CODE PROG AT $7F6E
120 REM
130 REM TO BYPASS PRINTER CARD
140 REM
150 REM DIGITEK SUPER PRINTMASTER
160 REM
170 ONERR GOTO 240
180 CLEAR : HIMEM: 32622:E = 1: PRINT
CHR$(4);"BLOADDMP.L": TEXT : HOME :
DIM A(65)
190 PS = "0":XS = "1":L = 8
200 GOSUB 1050
210 GOSUB 640
220 GOTO 520
230 VTAB 24: HTAB 8: PRINT "PRESS ANY
KEY TO CONTINUE": GET TS: PRINT : HOME
: RETURN
240 F = PEEK (222)
250 IF F = 6 THEN FS = "FILE NOT
FOUND"
260 IF F = 8 THEN FS = "I/O ERROR"
270 IF F = 4 THEN FS = "WRITE
PROTECTED"
280 IF E = 1 THEN HOME : VTAB 10:
HTAB 7: PRINT "FILE ": INVERSE : PRINT
"DMP.L": NORMAL : PRINT " NOT FOUND":
GOSUB 230: GOTO 180
290 HOME : VTAB 12: HTAB 6: INVERSE :
PRINT FS: NORMAL
300 GOSUB 230
310 HOME : ON E - 1 GOTO 1190,1480
320 REM CALC DATA & STORE IN MEM
330 FOR X = X8 TO X9:M(X) = X8: NEXT :
FOR X = 1 TO 8
340 M(X8) = M(X8) + (A(X) * 2 ^ (X -
1)): NEXT
350 FOR X = X1 TO 16:M(1) = M(1) +
(A(X) * 2 ^ (X - X1)): NEXT
360 FOR X = X2 TO 24:M(2) = M(2) +
(A(X) * 2 ^ (X - X2)): NEXT
370 FOR X = X3 TO 32:M(3) = M(3) +
(A(X) * 2 ^ (X - X3)): NEXT
380 FOR X = X4 TO 40:M(4) = M(4) +
(A(X) * 2 ^ (X - X4)): NEXT
390 FOR X = X5 TO 48:M(5) = M(5) +
(A(X) * 2 ^ (X - X5)): NEXT
400 FOR X = X6 TO 56:M(6) = M(6) +
(A(X) * 2 ^ (X - X6)): NEXT
410 FOR X = X7 TO 64:M(X9) = M(X9) +
(A(X) * 2 ^ (X - X7)): NEXT
420 REM BLANK CHA ON SCREEN
430 FOR Y = X8 TO X9: FOR X = X8 TO
X9
440 VTAB (8 + Y): HTAB (4 + X): PRINT
" ": NEXT : NEXT
450 FOR X = 1 TO 64:A(X) = X8: NEXT
460 REM STORE M0 TO M7 IN MEM
470 P = (C - 32) * 10:PO = 16388 + P
480 POKE PO,C: POKE PO + 1,L:PO = PO +
2
490 FOR X = X8 TO X9: POKE PO +
X,M(X): NEXT
500 RETURN
510 REM CURSOR POSN & PLOT OR ERASE
520 VTAB 18: HTAB 1: FLASH : PRINT
"ENTER": NORMAL : GET AS
530 IF ASC (AS) > 47 AND ASC (AS) <
56 THEN VTAB (8 + VAL (PS)): HTAB 3:
PRINT PS: VTAB 19: HTAB 21: INVERSE :
PRINT AS: VTAB (8 + VAL (AS)): HTAB 3:
PRINT AS:N = VAL (AS):PS = AS: NORMAL
: GOTO 520
540 IF ASC (AS) > 64 AND ASC (AS) <
73 THEN VTAB 17: HTAB 21: INVERSE :
PRINT AS: GOSUB 1780: VTAB 7: HTAB (4 +
(ASC (AS) - 65)): PRINT AS:X9 = AS:
NORMAL : GOTO 520

```

```

550 IF AS = "P" THEN VTAB 17: HTAB
27: INVERSE : PRINT "P": NORMAL : VTAB
17: HTAB 35: PRINT "R": GOSUB 1290:
GOTO 520
560 IF AS = "R" THEN VTAB 17: HTAB
35: INVERSE : PRINT "R": NORMAL : VTAB
17: HTAB 27: PRINT "P": GOSUB 1290:
GOTO 520
570 IF AS = "N" THEN VTAB 18: HTAB 1:
PRINT " ": GOSUB 330: GOTO 620
580 IF AS = "S" THEN GOTO 1450
590 IF AS = "I" THEN VTAB 21: HTAB 8:
INVERSE : PRINT "DESCENDER": NORMAL :
VTAB 23: HTAB 8: PRINT "NO DESCENDER":L
= 40
600 IF AS = "O" THEN VTAB 21: HTAB 8:
PRINT "DESCENDER": VTAB 23: HTAB 8:
INVERSE : PRINT "NO DESCENDER":L = 8
610 GOTO 520
620 GOSUB 770: GOTO 520
630 REM SCREEN SETUP
640 HOME
650 VTAB 7: HTAB 4: PRINT "ABCDEFGH":
660 T = 8: FOR X = 0 TO 7: VTAB (T +
X): HTAB 3: PRINT CHR$(176 + X):
NEXT
670 VTAB 16: HTAB 26: PRINT "PLOT
ERASE"
680 VTAB 17: HTAB 8: PRINT "LETTER A-
H P R"
690 VTAB 19: HTAB 8: PRINT "NUMBER 0-
7 N S"
700 VTAB 21: HTAB 8: PRINT "DESCENDER
I"
710 INVERSE : VTAB 23: HTAB 8: PRINT
"NO DESCENDER": NORMAL : PRINT " O"
720 VTAB 11: HTAB 20: PRINT "ASCII
CODE"
730 VTAB 20: HTAB 26: PRINT "NEXT
SAVE"
740 VTAB 7: HTAB 20: INVERSE
750 IF RS = "1" THEN PRINT
"CREATING": NORMAL : GOTO 770
760 IF RS = "2" THEN PRINT "EDITING"
770 VTAB 11: HTAB 14: FLASH : PRINT
"ENTER": NORMAL
780 VTAB 13: HTAB 23: CALL - 868
790 IF PEEK (- 16384) < 127 THEN
790
800 C1 = PEEK (- 16384): POKE
- 16388,0
810 IF C1 < 177 OR C1 > 185 OR C1 =
178 THEN 790
820 C1 = C1 - 128: VTAB 13: HTAB 23:
PRINT CHR$(C1)
830 VTAB 13: HTAB 24: CALL - 868
840 IF PEEK (- 16384) < 127 THEN
840
850 C2 = PEEK (- 16384): POKE
- 16368,0: IF C2 = 136 THEN 780
860 IF C2 < 176 OR C2 > 185 THEN 840
870 IF C1 = 49 AND C2 > 178 THEN 840
880 C2 = C2 - 128: VTAB 13: HTAB 24:
PRINT CHR$(C2)
890 VTAB 13: HTAB 25: CALL - 868
900 IF PEEK (- 16384) < 127 THEN
900
910 C3 = PEEK (- 16384): POKE
- 16368,0: IF C3 = 136 THEN 830
920 IF C3 = 141 AND C1 = 49 THEN 900
930 IF C3 = 141 THEN C = (C1 - 48) *
10 + (C2 - 48): GOTO 1010
940 IF C3 < 176 OR C3 > 185 THEN 900
950 IF C1 > 49 THEN 900
960 IF C2 > 49 AND C3 = 185 THEN 900
970 C3 = C3 - 128: PRINT CHR$(C3):C =
(C1 - 48) * 100 + (C2 - 48) * 10 + (C3
- 48)
980 IF PEEK (- 16384) < 127 THEN
980
990 C4 = PEEK (- 16384): POKE
- 16368,0: IF C4 = 136 THEN 890
1000 IF C4 < > 141 THEN 980
1010 VTAB 11: HTAB 14: PRINT " "
1020 IF RS = "2" THEN GOSUB 1530
1030 RETURN
1040 REM INITIAL SCREEN SETUP
1050 REM SETUP SCREEN
1060 X1 = 9:X2 = 17:X3 = 25:X4 = 33:X5
= 41:X6 = 49:X7 = 57:X8 = 0:X9 = 7: REM
VARIABLES FOR SUBROUTINE 200

```

```

1070 FOR X = 1 TO 40: PRINT "":NEXT
1080 FOR A = 1 TO 3: PRINT "": TAB(
40):NEXT
1090 FOR A = 1 TO 40: PRINT "": NEXT
1100 VTAB 3: HTAB 8: PRINT "APPLE
D.M.P. CUSTOM FONTS."
1110 POKE 34,5
1120 VTAB 9: HTAB 14: PRINT "1) CREATE
FONT"
1130 VTAB 11: HTAB 14: PRINT "2) EDIT
FONT"
1140 VTAB 13: HTAB 14: PRINT "3)
QUIT"
1150 VTAB 15: HTAB 5: PRINT "WHICH DO
YOU REQUIRE 1-3 :-?"
1160 GET RS: IF RS < > "1" AND RS <
> "2" AND RS < > "3" THEN 1160
1170 IF RS = "1" THEN RETURN
1180 IF RS = "3" THEN TEXT : HOME :
END
1190 PRINT : HOME : VTAB 10: HTAB 2:
PRINT "PLEASE ENTER NAME OF SET FOR
EDITING"
1200 VTAB 12: HTAB 5: INPUT ES
1210 IF ES = "" THEN GOTO 1190
1220 VTAB 14: HTAB 9: PRINT "INSERT
DISK IN DRIVE 1"
1230 VTAB 16: HTAB 10: PRINT
"CONTAINING ABOVE SET"
1240 GOSUB 230
1250 E = 2
1260 PRINT CHR$(4);"BLOAD
":ES,AS4000,D1"
1270 RETURN
1280 REM PLOT OR RUBOUT
1290 IF ASC (X9) < 65 THEN RETURN
1300 IF PS = "A" THEN RETURN
1310 VTAB (8 + N): HTAB (4 + ASC (X9) -
65): IF AS = "P" THEN P1 = 1: INVERSE
: PRINT " ": NORMAL : GOTO 1330
1320 PRINT " ":P1 = 0
1330 M = 8 - (N + 1)
1340 A((ASC (X9) - 64) * 8) - M) =
P1: RETURN
1350 REM FIN
1360 VTAB 14: HTAB 5: PRINT "DO YOU
WISH TO LOAD THE NEW SET"
1370 VTAB 16: HTAB 7: PRINT "AND VIEW
ON THE PRINTER Y/N ": GET PS
1380 IF PS = "Y" GOTO 1410
1390 IF PS < > "N" GOTO 1360
1400 GOTO 1490
1410 VTAB 20: HTAB 4: PRINT "PLEASE
ENSURE PRINTER CONNECTED "
1420 VTAB 22: HTAB 14: PRINT "AND ON
LINE "
1430 VTAB 24: HTAB 8: PRINT "PRESS ANY
KEY TO CONTINUE ": GET TS
1440 GOSUB 1660: GOTO 1490
1450 VTAB 22: HTAB 10: FLASH : SPEED=
175: PRINT "ARE YOU FINISHED Y/N":
NORMAL : GET TS: SPEED= 255
1460 IF TS = "N" THEN VTAB 22: HTAB
10: CALL - 868: GOTO 520
1470 IF TS = "Y" THEN HOME : GOSUB
330: GOTO 1360
1480 PRINT : GOTO 1440
1490 HOME : VTAB 10: HTAB 4: PRINT
"PLEASE ENTER NAME FOR THIS FONT ":
INPUT NS: IF NS = "" THEN 1490
1500 E = 3: IF RS = "1" THEN POKE
16384,27: POKE 16385,45: POKE 16386,27:
POKE 16387,73: POKE 17334,4
1510 PRINT CHR$(
4);"BSAVE":NS,AS4000,LS3BB
1520 CLEAR : GOTO 180
1530 REM GET & DISPLAY CHA
1540 P = (C - 32) * 10:PO = 16388 + P +
2: FOR X = 0 TO 7:M(X) = PEEK (PO +
X): NEXT
1550 A = 64: FOR B = 7 TO 0 STEP - 1:
FOR X = 7 TO 0 STEP - 1
1560 IF M(B) / (2 ^ X) > - 1 THEN
A(A) = 1:M(B) = M(B) - (2 ^ X): GOTO
1580
1570 A(A) = 0
1580 A = A - 1: NEXT : NEXT
1590 A = 1: FOR X = 4 TO 11: FOR Y = 8
TO 15
1600 VTAB Y: HTAB X: IF A(A) = 0 THEN
GOTO 1620

```

Continued on page 16

```

1610 INVERSE : PRINT " : NORMAL
1620 A = A + 1: NEXT : NEXT
1630 T = PEEK (16388 + P + 1): IF T =
L THEN RETURN
1640 L = T: IF L = 40 THEN VTAB 23:
HTAB 8: PRINT "NO DESCENDER": VTAB 21:
HTAB 8: INVERSE : PRINT "DESCENDER":
NORMAL : RETURN
1650 VTAB 21: HTAB 8: PRINT
"DESCENDER": VTAB 23: HTAB 8: INVERSE :
PRINT "NO DESCENDER": NORMAL : RETURN
1660 CALL 32622
1670 PRINT
1680 PRINT CHR$(4); "PR#1": PRINT
1690 PRINT CHR$(27); CHR$(39);
1700 PRINT CHR$(27); CHR$(88);
1710 FOR Z = 32 TO 126
1720 PRINT Z; " "; CHR$(61); " ";
1730 PRINT CHR$(2); " "; : NEXT
1740 PRINT CHR$(27); CHR$(36)
1750 PRINT CHR$(27); CHR$(89)
1760 PRINT CHR$(4) "PR#0"
1770 RETURN
1780 FOR O = 1795 TO 1802: IF PEEK
(O) < 9 THEN M = PEEK (O): POKE O, (M +
192)
1790 NEXT :- RETURN

```

```

10 REM COPYRIGHT M LONG PRUDHOE
20 REM
30 REM & D STEWARD CORBRIDGE
40 REM
50 REM
60 REM ENGLAND
70 REM
80 REM DMP LOADER
90 REM
100 HIMEM: 32622: ONERR GOTO 530
110 SET$ = CHR$(174) + CHR$(196) +
CHR$(205) + CHR$(208): D$ = CHR$(
4)
120 REM
130 REM **TITLE**
140 REM
150 HOME : FOR A = 1 TO 40: PRINT
**": NEXT
160 FOR A = 1 TO 5: PRINT **: TAB(
40): **: NEXT
170 FOR A = 1 TO 40: PRINT **: NEXT

180 VTAB 3: HTAB 12: PRINT "LOAD APPLE
D.M.P."
190 VTAB 5: HTAB 15: PRINT "CUSTOM
FONT"
200 E = 1
210 REM
220 REM **SET WINDOW TOP**
230 REM
240 POKE 34,7
250 REM
260 REM **LOAD MACHINE CODE PROG**
270 REM
280 E = 1: PRINT D$ "BLOADDMP.L,D1"
290 REM
300 VTAB 12: HTAB 4: PRINT "PLEASE
INSERT A DISK CONTAINING"
310 VTAB 14: HTAB 8: PRINT "CUSTOM
FONTS IN DRIVE 1": COSUB 480: E = 2
320 HOME : VTAB 14: HTAB 3: PRINT "DO
YOU WISH TO CATALOG DISK Y/N ";
330 GET CS: IF CS < > "N" AND CS < >
"Y" THEN 330
340 IF CS = "N" THEN HOME : GOTO 370
350 HOME : GOSUB 630: IF N1 > 0 THEN
370
360 VTAB 12: HTAB 1: PRINT "NO
CHARACTER SETS FOUND. INSERT A DISK
WITH CHARACTER SETS IN DRIVE 1": GOSUB
480: GOTO 320
370 CALL - 958: VTAB 23: HTAB 1:
INVERSE : INPUT "LOAD WHICH SET "; NS:
NORMAL : E = 2
380 IF NS = "" THEN 370
390 HOME : VTAB 12: HTAB 4: PRINT
"PLEASE ENSURE PRINTER CONNECTED"

```

DMP.C

```

*7E70.7FB2
7E70:A9 30 85 07 A9 20 85 19 A9 08 85 1A A9 7F 8D B4
7E80:94 A9 01 8D B5 94 A9 00 85 08 A9 43 85 09 A9 07
7E90:8D B3 94 A9 00 85 06 8D B6 94 8D B8 94 A0 BA 91
7EA0:08 88 C0 FF D0 F9 C6 09 A5 09 C9 3F F0 05 A9 00
7EB0:4C 9F 7E E6 09 A0 00 A9 1B 91 08 C8 A9 2D 91 08
7ECO:C8 A9 1B 91 08 C8 A9 49 91 08 C8 A5 19 E6 19 91
7ED0:08 C8 A5 1A 91 08 C8 8C B8 94 A0 00 B1 06 8C B7
7EE0:94 AC B8 94 4A 8D B9 94 90 08 18 AD B5 94 71 08
7EF0:91 08 C8 C0 00 D0 02 E6 09 EE B6 94 AD B3 94 CD
7F00:B6 94 F0 06 AD B9 94 4C E4 7E C9 08 F0 07 C8 C0
7F10:00 D0 02 E6 09 0E B5 94 A9 00 CD B5 94 F0 11 A2
7F20:00 88 E8 C0 FF D0 02 C6 09 E0 08 D0 F4 4C 54 7F
7F30:AD B4 94 C5 19 F0 32 A9 01 8D B5 94 A5 19 E6 19
7F40:91 08 C8 C0 00 D0 02 E6 09 A5 1A 91 08 C8 C0 00
7F50:D0 02 E6 09 A9 00 8D B6 94 8C B8 94 AC B7 94 C8
7F60:C0 00 D0 02 E6 07 4C DC 7E A9 04 91 08 60 A9 00
7F70:85 1F A0 00 A9 00 85 1B A9 40 85 1C A9 BA 85 1D
7F80:A9 00 85 1E AD 90 C0 29 02 D0 F9 B1 1B 8D 90 C0
7F90:8D 9A C0 8D 99 C0 C8 C4 1F F0 07 C4 1D F0 0A 4C
7FA0:84 7F E6 1E E6 1C 4C 84 7F A2 03 E4 1E F0 03 4C
7FB0:84 7F 60

```

DMP.L

```

*7F6E.7FB2
7F6E:A9 00
7F70:85 1F A0 00 A9 00 85 1B A9 40 85 1C A9 BA 85 1D
7F80:A9 00 85 1E AD 90 C0 29 02 D0 F9 B1 1B 8D 90 C0
7F90:8D 9A C0 8D 99 C0 C8 C4 1F F0 07 C4 1D F0 0A 4C
7FA0:84 7F E6 1E E6 1C 4C 84 7F A2 03 E4 1E F0 03 4C
7FB0:84 7F 60

```

```

400 VTAB 14: HTAB 14: PRINT "AND ON
LINE": COSUB 480
410 IF RIGHTS (NS,4) < > ".DMP" THEN
NS = NS + SET$
420 PRINT D$: "BLOAD"NS",D1,AS4000"
430 CALL 32622
440 TEXT : HOME : VTAB 2: HTAB 4:
PRINT "DONE": END
450 REM
460 REM **PAUSE**
470 REM
480 VTAB 24: HTAB 8: PRINT "PRESS ANY
KEY TO CONTINUE": GET TS: PRINT
490 HOME : RETURN
500 REM
510 REM **ONERR**
520 REM
530 Y = PEEK (222)
540 IF Y = 6 THEN FS = "FILE NOT
FOUND"
550 IF Y = 13 THEN FS = "FILE TYPE
MISMATCH"
560 IF Y = 8 THEN FS = "I/O ERROR"
570 HOME : VTAB 12: HTAB 6: INVERSE :
PRINT FS: NORMAL
580 IF E = 1 THEN VTAB 14: HTAB 16:
INVERSE : PRINT " DMP.L
": NORMAL : PRINT " NOT FOUND": GOSUB
480: GOTO 280
590 GOSUB 480: HOME : GOTO 300
600 REM
610 REM ** CATALOG **
ADAPTED FROM PROG BY J
SHARPPUBLISHED IN HARDCORE, BASUG MAG
620 REM
630 RESTORE : FOR N = 8192 TO 8223:
READ M: POKE N,M: NEXT : IF B$ = "2"
THEN POKE 8204,2
640 DATA
169,32,160,10,32,181,183,96,0,0,1,96,1,
0,17,0,27,32,0,33,0,0
,1,0,0,96,1,0,1,239,216,0
650 ISECT = 8207:ICMD = 8214:IBUFF =
8211:CMD = 1:BUFF = 33:SECT = 15: POKE
ICMD,CMD

```

```

660 POKE ISECT,SECT: POKE IBUFF,BUFF:
CALL 8192:SECT = SECT - 1:BUFF = BUFF +
1: IF SECT > = 1 THEN 660
670 B = 8459: FOR R = 0 TO 14:A = H +
256 * R: FOR S = 0 TO 6:TYPE = PEEK (A
+ 2 + S * 35): IF TYPE = 132 OR TYPE =
4, THEN 690
680 GOTO 750
690 NAMES = "":LGTH = PEEK (A + 33 + 5
* 35):LH$ = STR$(LGTH):L = LEN
(LH$): FOR M = 0 TO 30:E = PEEK (A + 3
+ S * 35 + M):F = PEEK (A + 4 + S * 35
+ M): IF E = 160 AND F = 160 THEN 710
700 NAMES = NAMES + CHR$(E): NEXT M
710 IF LEN (NAMES) < 4 THEN 750
720 IF RIGHTS (NAMES,4) < > SET$
THEN 750
730 N1 = N1 + 1: IF INT (N1 / 2) < >
N1 / 2 THEN VTAB 8 + INT (N1 / 2):
HTAB 1: PRINT NAMES: GOTO 750
740 VTAB 8 + INT ((N1 - 1) / 2): HTAB
21: PRINT NAMES
750 NEXT S,R: RETURN

```

Program listings are
available on BABBS and
the Force for
downloading.

Apple2000 welcomes
contributions from
members, on any Apple
related subject.



LEAP AHEAD OF THE GAME

The Gazelle

is an integrated communications program written in Assembly Language for APPLE //e, //c and //GS

The Gazelle

offers BRILLIANT COLOUR - and a Viewdata Frame Editor with Carousel. Download as many frames as you like, edit them then carousel the display with timer control.

The Gazelle

is State-of-the-Art Prodos communications software.

- EASY TO USE
Select Commands with Mouse, Alphabetic or Cursor Keys
- UNIQUE FRIENDLY INTERFACE
Pull-Down Menus
- WRITTEN BY EWEN WANNOP
Well-known brainy boffin
- DIRECT ACCESS TO HELP SCREENS
from any point in program
- SENDS APPLEWORKS files and
DOWNLOADS Email as AWP files
- STATUS BAR DISPLAY
Shows Buffer, Speed, Date & Time
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Up to 30 Megabytes
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(for Mousecard & //c)
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The Gazelle

Communications Software for the Apple // Series.

There is a new tele-communications program about to be launched in the U.K. It will give Apple // users the facilities that they have dreamed about for years. Kim Hull previewed a pre-release copy for Apple2000.

//e, //c or //GS

'The Gazelle' was written by Ewen Wannop, a character of some repute in the communications field and a well-known associate of Apple 2000.

The program starts with a double high-res menu screen which allows the user to go to the viewdata editor, the file transfer menu or the main part of the program - the terminal program. The use of double high-res immediately indicates which Apple vehicles can use this software; sorry II+ users, you need either an extended //e, a //c or a //GS to run the Gazelle.

Software System Clock

The program defaults to the terminal program if no keys are pressed at the outset. The menus are a series of pull-down windows which are named Options, Buffer, File, Config and Help. This really is a huge program with many facilities which there is not enough room to discuss here, so I will try to outline some of the better features and some of the worse drawbacks.

Above the window environment is a Status Bar which is visible both on and off line. With a //c or a //e and a mouse card the program

displays a system clock with the time and date and the length of time on-line. This is shown in the Status, along with Buffer details, System configuration details, data transfer speed, word format, etc. If you do not have a mousecard, you will not get the system clock on your //e.

On-line Help Files

Steering around the menu windows is very easy; you can use the mouse, the cursor arrows or just press the first letter of the command you want to access and the command highlights as the cursor passes over it.

I am the sort of person that only reads the program manual as a last resort so the first thing I turned to was the Help Menu. This has ten headings and pressing return on any one opens a window of help on that subject, usually several pages long.

What makes the Help facility really remarkable is that at any stage during command selection you can access on-line help on that subject. It works like this. In the Options window is a facility to set the Time on the system clock. By highlighting the command Time and pressing the '?' key the help window opens on the

correct help file and on the correct page to give assistance on the subject, and references the pages in the manual to look at for more help. This facility is available on all commands at all times, even whilst on line. This is true user friendliness.

Hayes Auto-Dialling

I picked up enough from the Help Menu to try going on-line to my favourite bulletin board. I went to the Config menu and set up the speed for 1200/75 and 8-N-1, and used the Archive facility to set this as the default setting for my system; Gazelle saved this to disc.

I moved back to the Options window, and pressed return when Dial was highlighted. A window opened requesting the telephone number - which I entered; the Gazelle supports all manual dial and Hayes compatible auto-dial modems, but variations on 'compatible' are endless so the publishers offer to assist if problems occur. My connection went smoothly and I was taken from the menu to the terminal display.

The buffer is 44k, and the Status Bar displays memory usage at all times. If this buffer is not big enough for you, there is a quickspool facility which allows continuous spooling of the incoming data to a file on disc, and thanks to ProDos this can be up to 30 megabytes!!! Start looking around for a hard disc now.

Receive/Send AppleWorks Files

The OA-key toggles between the Data display and the Menus display. I toggled back to the Menu area, moved to the File window, highlighted the Prefix command and pressed ? to read the Help file. Pressing OA took me back to the menu, still on Prefix. I returned, and a window opened asking me for a new disc prefix.

At this stage you begin to appreciate how much Ewen Wannop understands the Apple and ProDos. All I had to do now was type in D2, and the

Prefix was set to BOARD, DOWNLOADS, the name of the disc in drive 2. I toggled back to the data window, logged off the bulletin board and OA'd to the File window.

I use AppleWorks as my word processor. Gazelle can transmit these files directly and save downloads as AWP files, so I saved my Email directly as an Appleworks file.

Gazelle does have a useful text editor for viewing and preparing messages however most people will prefer to use their word processors for manipulating text, the AppleWorks facility will be really useful for the devotees of this program.

Macro Editor

I use Prestel on a regular basis for spotting airline ticket bargains and I am also a fan of the Healthdata 1200/75 bulletin board. I therefore wanted to test the Viewdata capabilities of Gazelle.

From the Options menu I used the Macro Edit facility to set up a simple macro to issue my account and password numbers to Prestel for logging on. The macro capabilities are far beyond those that I will ever need; several pages of the manual are taken up with the commands alone.

Dialling and ring-off can be incorporated and the selection of examples provided on the disc make understanding this often baffling side of communications software much easier.

The facility for elements of an individual macro to be conditionally recursive is extremely powerful, as is the ability for one macro to call another. I completed my simple macro, switched to Viewdata mode in the menu window by highlighting it and pressing Return (you must have some idea of how this interface works by now?) and Auto-dialled Prestel.

Once in, I was surprised to find that my Prestel display was in monochrome as Gazelle claims to display Viewdata in full colour, but I will explain this later.

Downloading Prestel

I downloaded a number of pages. Again, there is really no limit to the number that could be downloaded thanks to the spool-file capability. As Prestel does not recognise Xon/Xoff protocol it is best to save to a Ram disk to lessen data loss.

I then logged off Prestel and logged onto one of the non-commercial ITEC viewdata boards. There are many of these around the country so you should be able to find one at local call rates.

I loaded some more frames, toggled to the menu and saved the buffer to a file on disk, toggled back to Viewdata and logged off.

Here I was stuck with a predicament. I wanted to edit the downloaded frames but the only way to get into the viewdata editor was an OA-CTRL-RESET; it is nit-picking, but I felt this transfer could have been cleaner.

After re-booting, I pressed E for viewdata editor and was presented with a new set of menu windows.

Colour Displays

I will deal now with my earlier comments about the Prestel colour display. If you have a Pace Palette Card you will get colour viewdata displays while on-line.

If, like me, you have an RGB monitor and card you will not get colour displays while on-line but will be able to see and edit the displays in colour if your card can display double hi-res graphics.

Several RGB cards cannot do this. The best card to have is the Keyzone Spectrogram card. Gazelle programmes the card to display the colours correctly, not as standard Apple colours but as viewdata colours.

The Viewdata Editor

The viewdata editor is fantastic, and that's an understatement. The whole process of building and editing frames is explained simply and clearly, and on-line help is

available at all times as before. I loaded up my previously saved buffer, turned the colour on, opened up a spool file on my PlusRam card and grabbed frames out of the buffer for editing.

A status line at the bottom of the screen shows where the hidden Esc codes that control colour, height, alpha or graphics; the grabbed frame can be restored if a complete foul up is made of the edit, and a range of "standard" frames are provided to enter into the sequence. As I completed frames they were saved away to my spool file at ramdisk speed.

Carousel Display

I cleared the buffer, loaded in my spoolfile and went to the Display option. This allows continuous carouseling of the frames in memory (and you can keep a great deal in memory as each frame is saved in the most economical fashion) with whatever delay between frame paging as desired.

This programme really opens up the Apple as a machine for people using the closed user groups on Prestel. The updates of frames could be downloaded during cheap rate time, a carousel of edited frames assembled, and the carousel displayed in any prominent place; for example personalised holiday offers in a travel agents window.

Anyone with an Apple could apply to be an information provider and the quality of the frames is only limited by the skill of the user, not the equipment.

The Copy Programme

The third section of the programme is really only of use to present comms users. If you already have a comms programme for the Apple and have saved files and viewdata frames, they will probably be saved as DOS 3.3 files. Many farmers use Apples to access the CUG for them on Prestel and will wish to upgrade to the ProDos operating system. The Copy Files part of the

programme can transfer files saved using programmes like Data Highway and Vicom into a format suitable for Gazelle and ProDos. It is like a sort of mini chameleon, but with a different look due to the pull down menus.

Copy Protection

The Gazelle is not copy protected, therefore making a back-up is no problem.

The review copy of 'The Gazelle' came with a polite warning that all disks issued by Kolour Software have a unique serial number encrypted in several places on the disk, and that any unlawful distribution would result in prosecution

Summing Up

The Gazelle has very many plusses and one or two minuses. The use of ProDos, the speed and flexibility, and the ease of use make this without doubt the communications programme of the future.

The manual is clear, if a little verbose, and the on-line help is comprehensive. There is an upgrade path for users of existing comms programmes and if you have not yet been bitten by the Viewdata bug, the colour features of Gazelle will ensure that you become addicted to an area of communications that in the past has been seen as BBC territory.

Title: The Gazelle

Author: Ewen Wannop

Type: Communications Software

Machine Requirements:

//e, //c or IIGS

Publisher: Kolour Software Ltd

62 The Square,

Wetherby (Leavingham),

West Yorkshire LS23 7BQ

Telephone 01937 541111

Cost: £75.00 + VAT

Available from: Kolour Software

Available NOW

HOT LINE NEWS

Dave Ward - 088 93 21192

Last time I mentioned problems using certain programs written for older Apple computers on the latest //c, enhanced //e and IIGS machines, where certain inverse characters appear as 'gibberish' on the screen. This problem is often caused by non standard methods of producing inverse characters.

Since then I have been acquainted with two more solutions:-

1) AppleWriter //e can be cured by a very simple 'patch' which is described by Steve Meuse in Nibble Magazine April 1985 pp63-64.

2) There does not appear to be a 'patch' for PFS FILE: //e as I am aware.

Fred Waters of Portsmouth informed me that he had solved his problem by contacting Software Publishing Europe 85-87 Jermyn Street London SW1Y 6JD telephone 01-839-2840.

The latest versions of the PFS series working under ProDOS do not exhibit this problem and software is available to transfer your old files to the new system.

Apparently Fred got very good service from PFS. Remember though that PFS software is copy protected so a back-up may be advisable unless you can bypass it!

Some members who are fortunate (read wealthy) enough to have Apple IIGS computers have had a slight difficulty with AppleWorks version 2.0. The problem appeared to be that even though they had a 256K expansion card AppleWorks would not recognize it and only gave a desktop of 56K. The problem turned out to be that they had specified the 256K ram to be a ramdisk and even though they had switched it off

from the control panel it was still active. If you want to use the ram for any other purpose you must turn off the ram disk from the control panel and then switch off the computer for a few minutes and then switch it on again. Nothing else seems to be good enough.

Some members including myself seem to think that if they see something advertised for £20 which would cost £55 elsewhere they worry that there might be something wrong with it. This problem occurred with Plusram 256K upgrade kits which cost £20 compared with other advertised prices of £55 to upgrade the 256K Apple IIGS memory card. I contacted Cirtech (UK) regarding this matter and as a result purchased 3 such kits to bring my card to a full megabyte. I can assure members that they work perfectly.

Many members have complained that there seems to be very little technical information about the Apple IIGS in the UK. It would appear that although Apple Computer Inc. now launch all new hardware simultaneously throughout the world the same cannot be said of technical information. Many have said that much better information is available from Cupertino. It seems a pity that UK hardware and software products should be put at a disadvantage; you only have to look at the advertisements in this magazine to see the exceptional quality of UK products.

Do any members know of ways of transferring screens from a Macintosh to the Apple IIGS format?

TRANSWARP

Your file can run faster than a GS - with TransWarp.

TransWarp is the accelerator which beats all others out of sight. With 256K of fast memory on board, TransWarp can accelerate auxiliary as well as motherboard memory which is why it runs 30% faster than other accelerators. And no problems with caching techniques.

Results of Byte magazine "sieve" benchmark, in seconds:

Ile - 245 secs; IBM-PC - 191 secs; Macintosh - 125 secs;
Mac Plus - 96 secs; IIGS - 96 secs; IBM-PCAT(6MHz)-80secs;
Ile + TransWarp - 80 secs.

Source: "Open-Apple" December 1988

Compatible with Ile/Ile+ only. Not GS compatible.

Price: £279.00 (ex Vat).

GS - RAM

GS-Ram (256K to 1.5 Meg) - fits GS memory slot

As well as adding extra memory (up to 1.5 Meg on 1 card) GS-Ram also increases AppleWorks 2.0 internal limits to over 25,000 records in the database and 25,000 lines in the word processor and to 2000 lines/records in the clipboard.

Also displays time and date on the AppleWorks screen and gives automatic time/date entry into the database.

Also auto-loads AppleWorks for even faster operation; has a variable-size printer buffer, and auto-segments large files so they can be saved on two or more disks.

GS-RAM is not the cheapest memory card for the GS but it does much, much more than ANY other card. PLUS reliability is assured as it's from the makers of the world beating RamWorks and Z-RAM.

A 1 Meg GS-RAM or larger includes free Pinpoint 2.0.

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The Apple II GS is the first Apple // computer, as far as I am aware, to have an internal clock and of course, it's different than any of the clock cards that we have been used to.

At present only ProDOS 8 V1.2 and ProDOS 16 and some applications which work under these operating systems can access the clock.

I have been unable to find any technical information regarding the clock, however, by modifying a bit of the code contained within ProDOS 8 (V1.2), I have managed to read the clock from BASIC, even when running under one of the oldest operating systems, DOS 3.2.

For those Apple II GS users who want a routine here is a BASIC program that reads the clock. First it is basic because it is written in that language and secondly because it only prints out the date-time in text.

I leave readers to add the GSI, just think enterprising programmers could produce a cuckoo clock. I left out sound simply because I may want to write a future article on what makes the GS tick!

The Apple II GS clock is very good; it supports seconds, minutes, hours, days and years. It treats leap years correctly and does not balk at year 2000 and on. Although the control panel clock only shows 01 for year 2001 etc. it is held internally as 101.

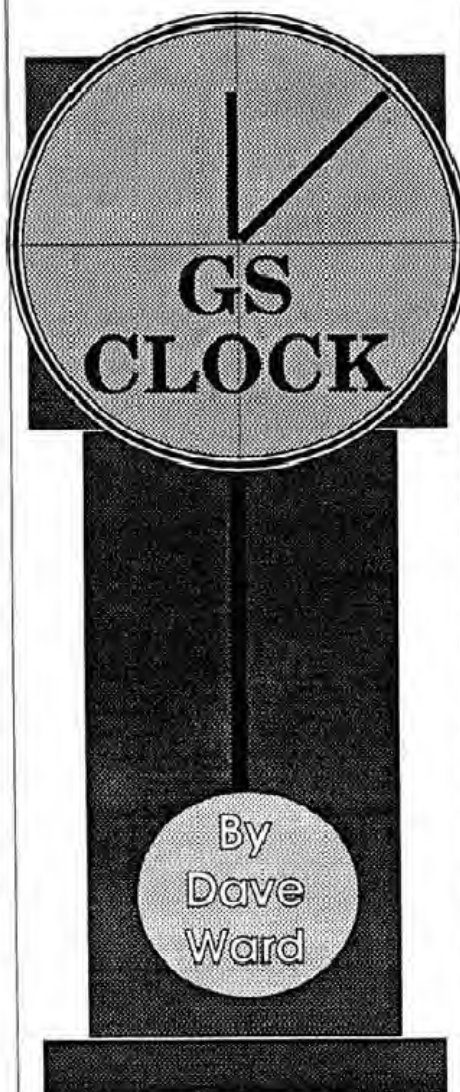
The clock on my Apple II GS is not particularly accurate gaining about 2 seconds per day but that is not too much of a problem since it's so easy to change from the control panel. Remember, that if you invoke the control panel option to adjust the clock, that the display is frozen and you must adjust the time before you exit otherwise your clock will have effectively lost time!

The following BASIC program requires a machine code clock reader and since machine code is difficult to hide under ProDOS the program has been designed so that the machine code routine is ensconced at the end of the program. This technique is so 'old' that it is

likely that WOZ or Randy Wigginton devised it.

One of its cleverest uses is in the Machine Routine (Wizards Tool Box) designed by Peter Mayer which allows over 250 machine code subroutines to be attached to the end of BASIC programs!!

It goes without saying that these 'parasites' must be relocatable since they move about as you add, delete or alter lines in the program.



A PROGRAM TO READ THE APPLE II GS CLOCK

Applesoft BASIC may be rather old fashioned but like all the pies that WOZ has had his fingers in, hidden depths are present - witness the Ampersand command which has produced a plethora of Applesoft enhancements.

When an Applesoft program is loaded its length, stored within the file, is translated into the end-of-program pointer (\$AF/\$B0), in the 'zero page' from which LOMEM: is initially determined.

Strangely enough Applesoft programs do not use this information to find the end-of-program during running or listing!!

In Applesoft the first information in a 'line' is a link pointer to the start of the next line and the end-of-program is a pseudo line whose link is zero. So we can add as much code after the pseudo line as we like all we have to do is to update the end-of-program pointer (\$AF/\$B0) and SAVE the program - it's just as simple as that. Also your machine code is in the safest possible place where ProDOS can't walk all over it. It is also self-loaded with the BASIC program and so is totally transparent.

When you have entered the following program check it very carefully. When RUN the program will prompt you to SAVE it as GSCLOCK.SETUP - so **make sure that you have a correctly formatted diskette ready to store it.**

Do save it because the program will modify itself by deleting a few lines and installing the machine code clock reading routine.

Finally you will be prompted to SAVE the fully installed program BASIC.CLOCK.GS. This program BASIC.CLOCK.GS may be amended almost at will except that you must retain the relocation routine that ensures that the clock reading routine will work anywhere in memory.



Programme Listing

```

1 GOTO 60000

80 PTR = PEEK (M) + 256 * PEEK
(M + 1): RETURN

50000 REM "---- Entrypoint to Clock
display program ----

50020 DIM MNS(11), DAS(7)

50200 MNS(0) = "January"
:MNS(1) = "February"
:MNS(2) = "March"
:MNS(3) = "April"
:MNS(4) = "May"
:MNS(5) = "June"
:MNS(6) = "July"
:MNS(7) = "August"
:MNS(8) = "September"
:MNS(9) = "October"
:MNS(10) = "November"
:MNS(11) = "December"

50220 DAS(7) = "Saturday"
:DAS(1) = "Sunday"
:DAS(2) = "Monday"
:DAS(3) = "Tuesday"
:DAS(4) = "Wednesday"
:DAS(5) = "Thursday"
:DAS(6) = "Friday"

51000 M = 175
:GOSUB 80
:CL = PTR - 170
:DT = PTR - 80
:M = DT
:X1 = INT (DT / 256)
:X0 = DT - X1 * 256
:POKE CL + 6, X0
:POKE CL + 7, X1
:POKE CL + 34, X0
:POKE CL + 35, X1
:POKE CL + 44, X0
:POKE CL + 45, X1
:CALL CL

51040 DT = DT + 1
:SECS = PEEK (DT + 7)
:MINS = PEEK (DT + 6)
:HOURS = PEEK (DT + 5)
:YEAR = PEEK (DT + 4) + 1900
:DAYTE = PEEK (DT + 3) + 1
:MUNTH = PEEK (DT + 2) + 1
:WEEKDAY = PEEK (DT)

51050 HOME
:VTAB 10
:PRINT DAS(WEEKDAY);

51060 PRINT " " RIGHTS ("0" + STR$
(DAYTE), 2) " MNS(MUNTH - 1) " "
:PRINT YEAR;

51080 PRINT " " RIGHTS ("0" +
STR$ (HOURS), 2)
:" " RIGHTS ("0" + STR$ (MINS), 2)
:" " RIGHTS ("0" + STR$ (SECS), 2)

60000 DATA
226, 48, 173, 104, 192, 141, 0, 3, 41, 207, 141,
104, 192, 24, 251, 194, 48, 169, 0, 0, 72, 72,
72, 72, 162, 3, 13, 34, 0, 0, 225, 226, 32, 173,
0, 3, 141, 104, 192, 162, 8, 0, 104, 157, 0, 3,
207, 208, 249, 56, 251, 96

```

```

63300 PRINT
:PRINT "Ready to SAVE
GSCLOCK.SETUP
Please press a key to continue ";
:GET K$
:PRINT
:PRINT CHR$(4) "SAVE
GSCLOCK.SETUP"
:PRINT
:PRINT "Saved GSCLOCK.SETUP"
:NL% = 103

63310 M = NL%
:GOSUB 80
:NL% = PTR
:M = PTR + 2
:GOSUB 80
:IF PTR < > 60000 THEN 63310

63330 M = NL%
:GOSUB 80
:CL = PTR - 170

63340 FOR M = CL TO CL + 170
:READ P
:POKE M, P
:IF P < > 96 THEN NEXT

63500 POKE 175, PEEK (NL%)
:POKE 176, PEEK (NL% + 1)
:POKE NL%, 0
:POKE NL% + 1, 0
:M = 103
:GOSUB 80
:POKE PTR + 5, 53

63600 PRINT
:PRINT "Saving BASIC.CLOCK.GS"
:PRINT CHR$(4) "SAVE
BASIC.CLOCK.GS"
:PRINT
:PRINT "Saved BASIC.CLOCK.GS"

```

Let's take a look at the program line-by-line :

1 GOTO 60000 This is good practice since subroutines are easier for the program to find if near the start of the program. It is also easily changed to 50000 when the program amends itself.

60000 This is the start of the setup routine that amends the program, enters the machine code routine and finally deletes itself! It also contains the data for that routine.

63300 SAVes the program just in case you need it!

63310 Locates the start of line 60000 in memory.

63330 Locates the start of line 63300 and makes CL equal to the start of the machine code routine which incidentally over-writes the data!

63340 Actually POKes in the machine code routine. Note that the loop is exited badly!

63500 Makes line 60000 into the pseudo line to mark the end of BASIC lines. Also the end-of-program pointer (\$AF/\$B0) is

set well after the machine code to protect it. GOTO 60000 in line 1 is changed to GOTO 50000 to allow the real program to run correctly.

After running the program all the above code will have vanished and line 1 is changed!

1 Goto 50000

80 Converts two contiguous bytes in memory in LO/Hi format into PTR.

50000 Program main entrypoint

50020 Dimensions string arrays

50200 & 50220 Sets up month and day information.

51000 Finds the end of program in memory from which the start of the machine code routine (CL) is found. Also a pointer to the data (DT) is calculated and poked into the machine code routine to make it relocatable. The data area is required to hold the time-date from the clock.

51040 Real data starts at the second entry in the data area from which the date-time is PEEKed.

51050-51080 prints out the date-time on the text screen.

You might have wondered why I have not listed the machine code in assembler. Well firstly I don't have an assembler that will deal with 65C816 code and secondly the start of the code is in 65C02 mode followed by 65C816 code with 16 bit registers. The next part is still 65C816 code but the A register is reduced to 8 bits whilst the other registers are still in 16 bit width. Such a routine is difficult to list!

This routine will allow you to date stamp files and data records without having to manually enter the time. It also allows you to greet users with the date-time etc.

Perhaps an IBM version might show the following legend on the screen :

Good morning Mr Phelps

Don't worry, though, neither this program nor the article will self-destruct!



TECHNICALLY SPEAKING

Dougal Hendry looks at the Serial Interface

"The interface serial"

What is the problem with making serial connections?

Serial interfaces are supposed to be the simplest way to move data between differing computer equipment. However, the variety of standards and options can be bewildering and usually documentation is either misleading or impenetrably technical. Too often it is both.

The idea of this column is to collect members' experience and publish it for the benefit of all the members. Let me repeat that: members' experience, not just mine. Please feel free to add to or challenge anything you see here.

I would love to see comments on the equipment that you use, communications software. Perhaps someone would clarify RS 422 and 423. Has anyone got practical experience of non-ASCII things like Telex, Fax, Radio Teletype and Videotex? Does anybody actually know anything about the Apple Desktop Bus?

The phrase "Standard RS 232 interface" in an advertisement often tests the Trades Descriptions Act. Now, although there is a written document, consulting it is unlikely to resolve many problems, since manufacturers tend to "improve" on the standard. For better or worse, RS 232 is the basis for most of the serial

interfaces that we are presently likely to encounter and so I shall begin by considering the requirements for making an "RS 232" connection.

The Electronic Industries Association RS 232C defines signal names, voltages and sequences, for two way transfer of a series of data bits.

The standard specifies the use of a 25 way connector, and a DB 25 is the de facto standard. 20 of the 25 pins has a name and a possible function, although most are not usually needed. I shall be referring here to signals on the standard 25 way connector, which can be translated into other pin-outs. "RS 232 compatible" signals appear on a wide variety of sockets, including the 8 and 9 way offerings on Macs and a 6 way telephone-type socket on the QL. (Collecting some data on pinouts would be useful.)

The sense of the connector, male or female, is not actually specified, leading to a market for short "gender changer" cables with either plugs or sockets at both ends. These are wired straight through, but you should check that all the pins you need are actually connected - 25 core cable is rare and pricey.

The equipment salesmen also offer a nice line in special "Break-out boxes" for analysing the signals fighting on the various wires. These may be cost-effective for call-out technicians, but most problems can be overcome with careful thinking and

access to the equipment manuals.

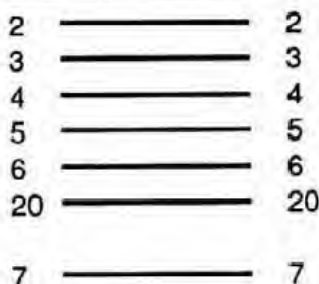
One good thing about this interface is that it seems to be highly resilient to damage by human error in cable connections, but the usual "It's entirely your responsibility" disclaimer must apply.

The starting point is the hardware documentation. We need to know whether each unit is a DTE or a DCE. What? Well the standard refers to the connection between a Terminal, (DTE or as I prefer to say T type - avoiding confusion with the signal names), and a Communications unit, (such as a modem and referred to in the standard as a DCE; I call it C type). Your printer, plotter, Apple 2 card or whatever could be either.

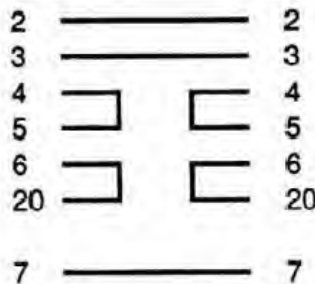
T and C types are like male and female, and in a nice simple world one type of connector would be defined for each. In this world, there is a richer variety of experience. For example, pin 2 carries the Transmitted Data and is called TxD, and pin 3 the Received Data, RxD. All signals are defined with respect to a T type. So data for transmission over the comms link goes out of pin 2 of a T type and into pin 2 of a C type. Data received by the C type appears on it's pin 3, to be input to pin 3 of the T type. Easy really.

But to connect two T types together, or two C types together, is not expected by the standard. In these cases, pin 2 of one must then be connected to pin 3 of its mate.

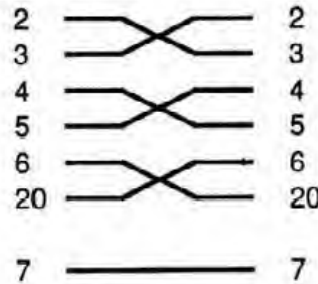
So it is vital to identify each part of your equipment as C or T type. Without this knowledge, you simply cannot say whether a pin is used as input or output, even though you know its name. It pays to read things very carefully indeed. Even the manufacturers of the excellent WS 4000 modem, surely a C type, advertise that it has an "EIA RS 232C / CCITT V24 compatible DTE interface" - a T type? Study of the pin



T type to C type



Fake handshaking



Null modem

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Q. What's the difference between the IIGS on the left and the IIGS on the right?

A. The one on the right is supplied by Holdens and has an Apple 1MB Ram Card fitted!

Most of the spectacular programs designed only to run on the GS require at least 512K of Memory. GraphicWriter and PaintWorks are two such programs. As more and more powerful applications are produced for the GS then the need for a large RAM Card grows. The GS uses 800K disks, and it is often desirable to be able to dump the entire contents of a disk on to a RAM Card. The answer to all these problems is to fit a 1MB Ram Card in your GS.

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512K Colour System	995.00
512K Hard Disk System	1695.00

descriptions shows that it has an interface that connects directly to a DTE, meaning that despite all that it is really a DCE!

Having sorted out the data wires, we can connect a zero volt reference, "Logic (or Signal) ground". This is a wire simply linking the two pin 7's.

It seems like a good moment to mention earthing. The standard provides pin 1 as a link between the chassis grounds of the two units. Personally, I use mains cable with an earth wire, and so make the required single link between the two chassis grounds in my multi-plug mains adapter.

Now we can go on to consider Handshaking. This is one unit telling the other "Not now, I'm busy". There is provision in the standard for both types of device to send and receive such hardware signals. Communication starts with the T type telling the C type to get ready. The T type outputs Request To Send (RTS) on its pin 4 into the pin 4, RTS, of the C type. When ready, the C type responds by outputting on line 5, into pin 5 of the T type. Pin 5, input or output, is called Clear To Send (CTS).

We could fake this "Handshake" by connecting pin 4 to pin 5 at the T type, so that the Request sent is immediately received, signifying Clear. (This would mean that the C type couldn't hold off the T type by "Hardware handshake" - we're coming to software handshaking soon enough.)

Another handshake pair are 6 and 20. The C type uses pin 6 DSR, to indicate readiness, and the T type pin 20, DTR, Data Terminal Ready. They could be similarly short-circuited at the C type end to fake the handshake.

When connecting two C or two T types together, we must cross over these handshake signals to take the outputs to relevant inputs, in the same way that we crossed over the data lines. We do this by connecting pin 4 on each to pin 5 on the other. Another two wires should cross-connect 6 and 20. (The salesman's name for a cable with 2&3, 4&5, 6&20 cross-connected is a Null Modem.)

When connecting a C type to a T type, only two other lines are commonly used. The first is pin 8, Data Carrier Detect - absence of this confirmatory signal originating from the C type can inhibit some T types from sending; you can fake the signal by linking 8 to 5, the Clear To Send input of the T type. The other you might meet is pin 22, Ring Indicator, intended to be used by auto-answer

modems to alert their T type to an incoming call.

Some final notes for the moment on cables. Do document your cable connections, you'll never remember the details. The cable itself should ideally be a shielded type to prevent radio and TV interference, but 6 core burglar alarm cable is much cheaper!

Strictly, we are now going beyond RS 232, but as mentioned above, a software alternative to hardware handshaking exists. Basically, special characters are sent down the data lines to turn on and off the flow. The normal scheme is called XON/XOFF, or sometimes DC1/DC3, after the particular ASCII control characters used. Occasionally, you may come across ETX/ACK and ENQ/ACK handshake protocols. Let us just note that both of these are different to XON/XOFF.

What is absolutely vital is that both units are set to accept exactly the same handshake method. Both units must also be set to the same data format and rate.

Data rate is simply a matter of how many characters are to be sent per second, although since the characters are sent one bit at a time, and the number of bits per character can be varied, the speed is more properly referred to in bits per second. A rate of 1 bit per second is called 1 Baud. 300 Baud is an average speed and my advice is to start with that, get it working, and only then try for more speed.

The Data Format is the form in which each character is transmitted. We tend to use ASCII, so it will be either seven or eight data bits, possibly a parity bit, and one or more stop bits. The data bits will simply be the ASCII code for the character being sent, parity bits are checksums to show up a garbled character, and the stop bits help the two units to keep in step with each other. Sometimes, the parity bit is to be fixed high, ("mark" or k), or low, ("space" or s), rather than acting as a sort of checksum - which needs definition as either odd or even. Setting eight data, no parity and one stop bit is quite common. (For ordinary text this is equivalent to seven data bits, space parity and one stop bit, because the most significant bit is sent last.) I believe that non-ASCII codes, such as the 5 bit Baudot used by Telex machines, can also be sent over RS 232 links, reinforcing the point that the standard applies to data signals - and not the data.

Setting of handshake type, data format and rate is usually done by switches, but it may actually be fixed on some units and on the computer it may be overridden by software - notably communications programs. Check the documentation very carefully and see to it that the settings on both units - and any software - are the same, and you'll be OK.

A brief note of technical interest. A logic 1 (Mark) is sent as a negative voltage, logic 0 (Space) is a positive voltage. The actual voltage may be anywhere between 5 and 15, though 12 Volts is popular. Handshake lines use Mark to indicate Busy.

Now, we ought to be able to send data over the link, but some suitable software is still required to do anything really useful. The whole exercise can still be scuppered by the lack of the special driver software for that wonderful plotter or daisywheel printer.

The next article should feature a discussion of modems and communications software, as well as your feedback on connections.

The following have their signals in the T type sense:

Mac and Mac+ (both ports),
ImageWriter 1, Tandy 100 & 102,
Juki 6100 add-in serial card,

and these are C type:

WS 4000 modem, GPO Modem 2B,
CCS 7110A serial card and the C/WP
comms card.

I believe that the Super Serial card is T type when set to "Modem" and C type when set to "Terminal", but the manual seems to have errors in Figures 4-5 and 4-6 which contradict everything else!

What can you add to the list?



**If you have any
comments on this
or other Apple
related subjects
please send them to
The Editor at the
P.O.Box.**

For those few of you who had the privilege to hear WOZ talk at the Apple User Forum on Saturday 1 November 1986 you will, no doubt, recall his comment on a program to create Knight Tours on a chessboard.

This was in fact one of his first programs and did not appear to work even though the code was correct. In a later check he discovered that it would have taken centuries to attain a solution!!

In 1976 I wrote a similar program, in BASIC, for a Hewlett Packard 2000E Time-Shared system but the program never actually produced a complete tour after many hours running.

The program, like Steve's, moves the knight to a vacant square until all the squares are used when it prints the result or it can move no further when it backs up and tries another; this is termed 'back-tracking'. Simple calculation shows that even on the fastest computers no solution would be found in a life-time!!!

Since I could, on paper, always write out a solution in a few minutes I decided to analyse the method; the simple program, in Applesoft BASIC, listed below does the job although I am sure WOZ could do better!

```
10 PRINT "Program creates random
knight tours on an 8 by 8
chessboard"
20 DIM A(80),N(8)
30 AS = "0123456789"
40 N(1) = - 19:N(5) = - 21:N(2)
= 12:N(6) = - 8:N(3) = 19:N(7)
= 21:N(4) = - 12:N(8) = 8
50 A0 = 10 * INT ( RND (1) * 8)
+ INT ( RND (1) * 8) + 2
60 FOR N = 0 TO 30 STEP 10:
FOR N0 = 1 TO 5:X = N / 10 + 2
65 X = N / 10 + 2: IF N0 < X
THEN X = N0
70 X = 10 - X:A(N + N0) = X:
A(81 - N - N0) = X:A(N - N0
+ 11) = X:A(70 - N + N0) = X
90 NEXT N: NEXT
120 A(A0) = 11
130 FOR N = 12 TO 74
140 V = 0:A2 = 0
150 FOR N0 = 1 TO 8
160 N1 = A0 + N(N0)
170 IF N1 > 79 OR N1 < 1
THEN 260
180 A1 = A(N1)
190 IF A1 > 8 OR A1 < A2
THEN 260
200 IF A1 = A2 THEN 230
```

Knights Tour

A solution in BASIC by Dave Ward!

```
210 V = 1
220 GOTO 240
230 V = V + 1
240 C(V) = N1
250 A2 = A1
260 NEXT N0
270 ON V + 1 GOTO 360,310
280 FOR E = 1 TO V
290 IF C(E) = 2 OR C(E) = 9 OR
C(E) = 72 OR C(E) = 79 THEN 330
300 NEXT E
310 A0 = C( INT( RND(1) * V) + 1)
320 GOTO 340
330 A0 = C(E)
340 A(A0) = N
350 NEXT N
360 PRINT N-11" Squares filled"
370 IF N < > 75 THEN 60
380 PRINT : PRINT "+---+---+---+
+---+---+---+
390 FOR N = 0 TO 7
400 PRINT "!";
410 FOR N0 = 2 TO 9
420 N1 = A(N * 10 + N0)
430 N2 = INT (N1 / 10)
440 N1 = N1 - 10 * (N2 - 1) - 9
450 PRINT MID$(AS,N2,1) MID$
(AS,N1,1)";
460 NEXT N0
470 PRINT
480 PRINT "+---+---+---+---+
+---+---+---+
490 NEXT N
500 PRINT
510 GOTO 60
```

Now for a three minute run!!!

Program creates random knight tours on an 8 by 8 chessboard

64 Squares filled

```
+---+---+---+---+
!23!38!07!46!21!36!05!02!
+---+---+---+---+
!08!45!22!37!06!03!20!35!
+---+---+---+---+
!39!24!47!62!55!58!01!04!
+---+---+---+---+
!44!09!56!59!48!63!34!19!
+---+---+---+---+
!25!40!61!64!57!54!15!50!
+---+---+---+---+
!10!43!28!53!60!49!18!33!
+---+---+---+---+
!29!26!41!12!31!16!51!14!
+---+---+---+---+
!42!11!30!27!52!13!32!17!
+---+---+---+---+
```

62 Squares filled
60 Squares filled
64 Squares filled

```
+---+---+---+---+
!42!13!34!17!44!03!32!19!
+---+---+---+---+
!35!16!43!02!33!18!45!04!
+---+---+---+---+
!12!41!14!55!62!57!20!31!
+---+---+---+---+
!15!36!61!58!01!54!05!46!
+---+---+---+---+
!40!11!52!63!56!59!30!21!
+---+---+---+---+
!37!26!39!60!53!64!47!06!
+---+---+---+---+
!10!51!24!27!08!49!22!29!
+---+---+---+---+
!25!38!09!50!23!28!07!48!
+---+---+---+---+
```

56 Squares filled
62 Squares filled
58 Squares filled
64 Squares filled

```
+---+---+---+---+
!14!27!50!43!16!29!02!33!
+---+---+---+---+
!49!42!15!28!51!32!17!30!
+---+---+---+---+
!26!13!48!61!44!01!34!03!
+---+---+---+---+
!41!60!45!64!47!52!31!18!
+---+---+---+---+
!12!25!54!59!62!19!04!35!
+---+---+---+---+
!55!40!63!46!53!58!07!20!
+---+---+---+---+
!24!11!38!57!22!09!36!05!
+---+---+---+---+
!39!56!23!10!37!06!21!08!
+---+---+---+---+
```

64 Squares filled

```
+---+---+---+---+
!03!36!55!22!05!26!39!24!
+---+---+---+---+
!56!21!04!37!60!23!06!27!
+---+---+---+---+
!35!02!59!54!51!38!25!40!
+---+---+---+---+
!20!57!52!01!64!61!28!07!
+---+---+---+---+
!13!34!63!58!53!50!41!46!
+---+---+---+---+
!16!19!14!49!62!45!08!29!
+---+---+---+---+
!33!12!17!44!31!10!47!42!
+---+---+---+---+
!18!15!32!11!48!43!30!09!
+---+---+---+---+
```

54 Squares filled
57 Squares filled
58 Squares filled

THE PRINT SHOP COMPANION & THE NEW IMPROVED PRINTSHOP

Harry Gardiner checks out the latest from Broderbund.

Broderbund have extended and improved the Print Shop package for use with a printer driven by an Apple II. (There are also Atari & C64 versions)

Existing users will find some old problems eliminated or eased, together with lots of new features added; there is something for everyone in this package, especially for home users.

Print Shop has always been easy to use, with simple and reversible steps between menu choices, which allow you to design and print a wide variety of greetings cards (Birthdays, Invitations, Valentines etc), banners, letterheads and graphic patterns, from a choice of 8 fonts (each a slightly different size) and 60 graphic images. The program allowed text to be mixed with graphics, though you could not see the effect on-screen, and has nice touches like a big throbbing 'THINKING' or 'PRINTING' notice on-screen while the user was waiting for the results. The program's popularity has spawned extra graphic images and utilities from Broderbund and others. The Print Shop Companion was Broderbund's first major supplementary utility set - basically a graphics, border and font editor, with sets of 12 new fonts, and 50 new border patterns.

Now, the main Print Shop program has been revised to include: - on-screen viewing of cards and notices (but not of banners), - the ability to save designs for cards, notices and letterheads to disk and to load them back. - the ability to get print-out in colour from certain printers. - and the option to reverse printing for those special T shirt printing kits.

As a Print Shop fan I enjoyed exploring these additions and changes. The on-screen viewing saves a lot of time printing out - particularly to check whether text over-writes graphics in the right places or not. The screen version is a bit crude - outline and '3D' versions of letters do not show well on the screen, but it probably is the best that can be done with the Apple II screen definition. Versions for the Apple IIGS should be better.

The facility for saving to disk once you have designed your

'This is the kind of software that can sell micros.....'

letterhead, notice or card, saves time it would take to re-make a design.

The colour printing option is fun, but colours tend to be pale, as most current dot matrix colour printers do not get the same intensity of colour as the Prism colour printers of 3 - 4 years ago. Judicious experiment is required to get round the problems to the most attractive effects.

The Print Shop Companion adds a lot of creative features to the main program.

Features include:-

- a fuller graphic editor with fill, mirror, flip, pattern, tile, negative image, lines, box, tile, oval and text commands.
- a border editor.
- a font editor (creating fonts will fill up your day faster than the fonts will fill your disk!).
- a 'tiled' pattern creator (using the 'screen magic' graphic pattern maker)

- a creature maker. If you've got any four-year olds this will keep them happy for about 20 minutes!

- a calendar, in monthly or weekly forms only, with a date range that would keep Dr. Who happy for quite a long time. There are spaces for whatever text entries you like to make.

- twelve new fonts, good ones too - fifty new borders; again good ones.

The Companion is more complex to use than Printshop itself, and not quite as easy or quick to use, but it will suit graphics hackers and those with a creative streak. The editor facilities really enable lots of individualisation of the font and graphics available to the main program. Kids who revel in Printshop would get a lot out of the creative choices of the Companion.

Overall I find Printshop a very usable program and these additions make it more flexible, and enable lots of customisation.

The program will work with Apple II+, IIe, and IIc and the IIGS (there is a dedicated IIGS version on the way). It will work with a wide variety of printers and printer cards, made easier by the trend for cards to emulate other cards and printers to emulate other printers. Broderbund advise printers with 120 by 72 dots per inch (eg Epsoms) or better (eg Imagewriter).

This is the kind of software that can sell micros to home users, and keep the 8 bit micros in use well into the 1990s.

It is so easy for tyros to get attractive results quickly, that this software is a great motivator, but also can still be fun after years of use. Schools would find this program of great



A selection of graphics produced with Printshop

value, both for its products and for the way it motivates users to try more designs and signs.

There are a few complaints. Firstly the copy protection is a pain; you can send 10 dollars to USA for a Print Shop back-up disk; you can run a once-only program to create a 'Companion' back-up disk. You CAN buy two copies of both programs. Otherwise, Broderbund's copy protection will really do its job.

If Broderbund are determined to stick strong protection on the disks, fair enough, but why not just include two disks?

Their prices are rather high too, but American disposable household income is much higher than here. They also must reckon that if users can afford a micro and a printer

then they can pay a bit more for their software. Broderbund's additional graphics disks can hardly be called cheap. Perhaps I should stop looking at Mastertronic's C64 games prices!

The next problem is in using the Companion disk at the same time as the Main Printshop disk; you will have to disk swap (even with two drive system) to get at any of your own fonts or graphics (or Broderbund's other graphic disks).

However, these stingy finicky gripes

included, this is excellent software that deserves to be better known and used here in the UK. So come on Broderbund, David Balsam, Martin Kahn, and Roland Gustafsson wrote you some pretty hot program, how about writing us some hotter prices?

THE PRINT SHOP (New Colour Version)
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Apple2000 Developers Group

Paul Russell gives an overview of this new Special Interest Group

Apple 2000 members interested in software development were invited to an informal meeting at Show 87, Bewdley on 21st March 1987. The purpose of the meeting was to try to establish some sort of 'self-help' developers group within Apple 2000.

Quite a number of people with a diverse range of interests turned up and there was a lively discussion about the possibilities for such a group. The following points were discussed.

ADG

The Apple Developers Group has recently been formed under the wing of Apple UK and is being run by a company in Scotland known as Office Workstations Ltd.

An ordinary subscription to ADG costs £25 per annum and entitles members to buy unsupported Apple development software and technical notes etc. However to gain access to technical support costs £250 per annum for the Apple //gs, £300 per annum for the Macintosh, or £400 per annum for both.

It was felt that these charges, while probably affordable by large companies, were far too high for the individual software developer, small company or someone who just wants very occasional technical support.

It was proposed that, if Apple UK approved, a joint membership to ADG be taken out by Apple 2000 on behalf of its members.

An Apple 2000 member would act as representative between Apple 2000 and ADG (probably Ewen Wannop for Apple IIGS and Paul Russell for Macintosh).

When a member of Apple 2000 needed technical information he/she would contact the representative, who would first attempt to obtain the information from a suitable member of the Apple 2000 developers group - failing that ADG would be contacted for assistance.

Communications

Means of communication between members were discussed.

Currently the preferred means are:
'MacTel' (0602 817696) for Macintosh, 'BABBS 1' (0394 276306) for Apple //, //e, //gs, and 'The Force', Apple 2000's closed user group on Telecom GOLD for general communication between those members with access to Telecom GOLD.

It was pointed out that the latter method was the most suitable, and cost about the same amount as a long distance bulletin board, but that not all developers had access to Telecom GOLD.

Database

All those present who were interested in cooperating in the formation of a developers

group were asked to submit their names, addresses, interests etc. These have now been entered into a database.

When a member has a technical problem it may be possible to put them in contact with another member who can help them directly. It was pointed out that the developers group would be a 'self-help' group and that members would have to be prepared to help answer queries as well as originate them.

Any Apple 2000 member who would like to be added to the list should contact:

**Paul Russell (BSG075),
14 Terminus Street,
Brighton BN1 3PE.**

Please give your name, address, telephone number, details of machine(s), language(s), interests, etc.

Next meeting

The next meeting will be at:

**MICE 87
Saturday 16th May 1987.**

Any Apple 2000 member who is interested in software development (mainly for Macintosh, Omnis, and Apple IIGS but Apple //, Apple //e are not excluded) is welcome to attend.



**Workshop2000
Saturday 27th June 1987**

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Come along - bring your problems. Let our collection of EXPERTS help you.

The venue is at Walton-on-Thames, just south-west of London close to the M25

Recently, many Micronet users have been burning the midnight oil, playing a new game installed within the Prestel viewdata system.

SHADES is a MUG (Multi-User Game) in the Dungeons tradition, which allows several users to play at the same time in the same game.

SHADES consists of 8 games allowing up to 8 players each. As in most MUGS, the primary object of the game is to accumulate points and consequently increase the level of your persona from NOVICE (0 points) to the exalted status of WIZARD (200000 points)

Although simple in principle, there are several obstacles which make rapid increase in levels difficult. These range from difficulty in finding treasure to being killed by mobiles or unfriendly players.

Points can be obtained via the gathering of treasures and depositing them in the Mad Kings Room (where they disappear to the Wizards Store), or through the killing of "mobiles", a number of computer generated characters. These move randomly through the game occasionally attacking and killing the unwary player.

An alternative way of obtaining points is through finding a weapon, then killing a fellow player. This particular sport, commonly known as S&S or H&K (Summon and Slay, Hunt and Kill respectively) has their adherents, although this can lead to revenge killings and general mayhem.

This behaviour is generally kept at bay through the threat of BLOTTING (termination of the persona) by Guardians and Arch-Wizards. It should be noted that being killed by mobiles or other players will result in the loss of half your points.

SHADES, like most adventure games, will accept a variety of command inputs such as (Go) North, South, East, West, Get, Drop and many others. Although multiple command strings aren't possible, some commands require the correct syntax to

operate. For example, to open a door with a key, you would have to type OPEN DOOR WITH***** KEY where ***** would be the specific key required. In addition, a variety of spells are available, the use of which depends upon the level reached by the persona. For example, the notorious KILL command can be used only by those of Explorer level (Level 5) or above. Typing COMMAND gives a list of the available commands.

'.....SHADES is not a game, but a way of life.....'

The collection of treasures or "T" as it is known, generally involves the obtaining of appropriate objects (such as keys for locked doors) and solving puzzles in the proper sequence. Unfortunately, there can be up to 7 other players in the same game going for the same treasures. In most cases, however, the ranking of players within a game is wide so it provides good opportunities at obtaining treasure that someone has missed.

Every hour or so, the game "Resets" returning all the treasure to their starting locations and the players are readmitted through the entrance.

The playing area in SHADES consists of about 600 locations, broadly divided into 3 regions (although other areas exist). The Castle, which contains the Mad Kings Room, a Ruined City and a Mansion. All are accessible but require the appropriate objects before entry can be effected. The City

for example, has a locked gate which must be opened with the correct key. Players will also find that cooperation with other users is essential in overcoming some obstacles.

In order to play the game, Apple users need only obtain a 1200/75 modem and some Viewdata software (Micronet subscription is also essential). In my case, a //e running Data Highway was found to be adequate, although some problems do exist, as will be explained. Mac users, as I have been assured by a certain Arch-Wizard, and fellow A2000 Member, can gain access using the VICOM viewdata package. Unfortunately, in order to implement scrolling effects on Micronet, colour had to be used by the programmer to overwrite old text on the screen. This leads to confusion on the monochrome screen of these Apples. This problem can be reduced by typing Cntrl C to clear the screen on Data Highway, or *B## on the Vicom viewdata software.

Playing SHADES will cost 97p per hour, in addition to connecting to PRESTEL. This is approximately £1.50, per hour playing time, including local cheap rate phone calls. It is competitive when compared to other commercial MUG type games. If you are already on Micronet, key *81188# and get a taste of the game. Once bitten by the bug, its very difficult to quit.

In conclusion, SHADES is an enjoyable (and addictive) game which has a large following among other Micronet users.

To paraphrase a saying, SHADES is not a game, but a way of life.



SHADES

K.Kishimoto plays a Multi User Game

PRODOS CATALOG READER

Read a PRODOS catalog with this
BASIC Program

INTRODUCTION

Anyone programming in Applesoft under the ProDOS operating system may have wondered why there is but 36348 bytes of memory left, as ProDOS is contained within the bank-switched memory of the 'language-card' in 'slot-zero'.

The answer is that there is a 10 Kilobyte program (BASIC.SYSTEM), where Dos 3.3 used to reside and which interfaces between the user, Applesoft and ProDOS. To take up so much real-estate this program must do a lot of useful work. Well it does and in this article we will examine one of the more abstruse features, but first a little history!

Before ProDOS arrived Applesoft programmers who wanted to get a CATALOG listing into a string array had considerable difficulty since a 'machine code' subroutine was required. The designers of ProDOS have arranged for this to be accomplished quite simply by Applesoft programmers. All you need to do is to treat a volume-name or sub-directory as a text-file!! See line 1020 where the filetype DIR is specified.

Here is a small program that allows the reading of any volume or subdirectory to be read into the string array FILESS\$: -

PROGRAM LISTING

```
1 GOTO 50000
2 RETURN
9 PRINT "Saving the DIREAD program -
  please wait"
:PRINT CHR$(4)"SAVE /PLAN/DIREAD"
:PRINT "Saved the DIREAD program"
:END
90 HOME
91 M = LEN (F$)
:ON M > 78 GOTO 2
:PRINT SPC( (78 - M) / 2)IV$P$NM$
:RETURN
1000 REM "=== Directory reader ===
1020 PRINT CHR$(4)"OPEN "F$",TDIR"
:PRINT CHR$(4)"READ "F$
:REM "=== Ensure you OPEN a Directory file !!
1060 FOR FI = 0 TO 200
:INPUT FILESS(FI)
:IF LEFT$(FILESS(FI),11) = "BLOCKS FREE"
THEN FI% = FI
:FI = 200
:REM "=== The last line of the listing begins
BLOCKS FREE so exit loop properly by setting
counter to 200
1070 NEXT
:PRINT CHR$(4)"CLOSE "F$
:RETURN
50000 REM "=== Program entrypoint ===
```

```
50020 DIM FILESS(200)
50040 IV$ = CHR$(24) + CHR$(15) + " "
:REM "=== Inverse with warfarin ===
50041 NM$ = " " + CHR$(14)
:REM "=== Back to normal characters ===
51000 P$ = "Program reads DIREctory files into
strings"
:GOSUB 90
51040 GOSUB 90
:VTAB 10
:INPUT "Enter DIREctory name > ";F$
:S$(0) = "/"
:S$(1) = ""
:F$ = S$((LEFT$(F$,1) = "/")) + F$ + S$((
RIGHT$(F$,1) = "/"))
:GOSUB 1000
:REM "=== Get pathname to DIREctory and ensure
that it is delimited by /
51060 FOR M = 0 TO FI%
:PRINT FI$(M)
:NEXT
52000 PRINT CHR$(4)"OPEN CAT.SAVE"
:PRINT CHR$(4)"WRITE CAT.SAVE"
:FOR M = 0 TO FI%
:PRINT FI$(M)
:NEXT
:PRINT CHR$(4)"CLOSE"
:REM "=== Save the catalog listing in
a textfile ===
```

SAMPLE LISTING

Here is a sample run using disk volume /PLAN

```
/PLAN
NAME TYPE BLOCKS MODIFIED CREATED ENDFILE SUBTYPE
PRODOS SYS 30 18-SEP-84 0:00 27-DEC-86 17:34 14848
*BASIC.SYSTEM SYS 21 18-JUN-84 0:00 27-DEC-86 17:34 10240
STARTUP BAS 1 <NO DATE> 27-DEC-86 17:34 37
GPIL BAS 10 21-SEP-86 15:58 27-DEC-86 17:34 4352 A-B2000
P.SET BAS 27 <NO DATE> 27-DEC-86 17:34 12833
F.EDITOR BAS 30 <NO DATE> 27-DEC-86 17:34 14717
LISTER BIN 1 2-DEC-84 21:44 27-DEC-86 17:34 129 A-S02A0
*CONFIG.GFILE BAS 8 11-MAY-84 7:06 27-DEC-86 17:34 3331
*ESCAPE.SAVE BAS 3 20-JAN-84 12:00 27-DEC-86 17:34 812
*ESCAPE.PRINTER BIN 1 15-NOV-83 12:28 27-DEC-86 17:34 98 A-S0300
*REMOVE.GFILE BIN 1 16-NOV-83 11:17 27-DEC-86 17:34 114 A-S0300
F.SHEETER BAS 5 <NO DATE> 27-DEC-86 17:34 1956
P.FILER SYS 51 18-JUN-84 0:00 27-DEC-86 17:34 25600
P.UTILS BAS 7 <NO DATE> 27-DEC-86 17:34 2691
P.PRINTER BAS 5 <NO DATE> 27-DEC-86 17:34 1899
MASTERDATA TXT 3 <NO DATE> <NO DATE> 805 R= 256
F.SHARES TXT 17 <NO DATE> 27-DEC-86 17:34 8001 R= 40
DATA.F1 DIR 1 <NO DATE> <NO DATE> 512
PD BIN 7 <NO DATE> 27-DEC-86 17:34 2712 A-B2000
GET.LEN BIN 1 <NO DATE> 27-DEC-86 17:34 122 A-S0300
SUMMER BAS 6 <NO DATE> 27-DEC-86 17:34 2115
ACOPY BAS 9 <NO DATE> 27-DEC-86 17:34 3842
DIREAD BAS 3 <NO DATE> 28-DEC-86 21:13 766
P.HAMMER BAS 8 <NO DATE> <NO DATE> 3175
DATA.F2 DIR 1 <NO DATE> <NO DATE> 512
COPY BIN 3 29-DEC-86 8:57 29-DEC-86 8:57 946 A-B4000
KLISTER BIN 5 29-DEC-86 8:57 29-DEC-86 8:57 1665 A-S4000
KROVER.2 BAS 17 <NO DATE> <NO DATE> 7832
CAT.SAVE TXT 6 <NO DATE> <NO DATE> 2408 R= 0
```

BLOCKS FREE: 160 BLOCKS USED: 332 TOTAL BLOCKS: 492

CONCLUSION

Note that 33 lines are read into FILESS\$ array, and that line 25 reads:

DIREAD BAS 3 <NO DATE> 28-DEC-86 21:13 766

The file name - DIREAD is extracted with MIDS (FILESS(25),2,16) and using similar techniques you may extract other information about any particular file or even free space on the disk.

IIGS SOFTWARE LIBRARY

News of the new Library from
Graham Attwood

The Apple2000 GS software library gets under way this month with a useful selection of demo disks.

We are going to develop the Software Library for the IIGS in a similar way to the ones we run for the Apple II and Macintosh, and it will consist of contributed programs, public domain software, and 'shareware'.

Although it is early days yet, we should see this section of the Library grow as fast as the Macintosh Library has in the last two years.

Members are invited to send in any programs, AppleWorks Templates or other items that they consider of use to other members.

We would like to be in a position to have a 'home-grown' disk in the not too distant future.

To start the Library we have been given several demo disks of software from Apple and software publishers, these will give you some idea of what will be available and are available NOW on 3.5" disks at £6.00 each,

- G001 Paintworks Plus by Activision
- G002 Deluxe Paint by Electronic Arts
- G003 TopDraw by Styleware
- G004 Music Construction by Electronic Arts
- G005/6 Sales Demo by Apple (2 disk set)
- G007 Multiscribe by Styleware
- G008 GraphicWriter by DataPak
- G009 Tape Deck by Apple
- G010-015 Sound samples for above

NOTE

The disks above are for demonstration purposes only and have sections missing e.g. (S)ave or (P)rint may not work but all other functions are present and they give a good representation of the real program.

Most need 512K of RAM, and the TapeDeck sound needs a full 1Meg card.

The Sales Demo only works if the machine is set to 60Hz and this must be selected from the master control panel.

If you have any questions on the GS Software Library then please address them to Graham Attwood c/o the P.O.Box.



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Product News

Product announcements - compiled from press releases by Jim Panks.



SmartScrap & The Clipper

Solutions International

Solutions International the publishers of GLUE have announced two new Macintosh Desk Accessories SMARTSCRAP & THE CLIPPER. SmartScrap is the first commercial improvement on the old Scrapbook desk accessory released by Apple over four years ago. SmartScrap retains the old features and adds a pictorial table of contents, selective cut or copy, scrolling and resizing of the window and multiple scrapbooks with user names on any disk or in any folder. The Clipper allows the user to trim, shrink or enlarge pictures proportionally. It is a tool for manipulating a graphic that has been copied to the clipboard. P & P Micro are the U.K. Distributors and it should be available from most Apple Dealers. Price not announced.



Apple II

Guild of Thieves

Rainbird Software

Rainbird Software have announced the release in early May of Guild of Thieves, the second adventure in the Magnetic Scrolls series. Following on from The Pawn, Guild of Thieves is an intriguing adventure set in the land of Kerovnia. Prices are Apple II(Text only) £19.95 Macintosh £24.95. Rainbird Software are the Distributors and it should be available from most Apple Dealers.

Apple II
IIGS, IIfx

ProGrappler

Orange Micro

ProGrappler by Orange Micro is the latest in a line of high quality printer interfaces. The latest edition is compatible with the Grappler + but adds many new features which take advantage of the Apple IIGS. These include pull-down menus, Screen dump routines, Screen shot desk accessory and 75 built in commands. This is the latest in intelligent printer interfacing and costs £99 plus VAT. Available for P & P Micro Distributors or through most Apple Dealers.



Memorandum

Heyden & Son

Another SCOOP for Heyden & Son with the announcement that they are distributing MEMORANDUM in the U.K. If you have ever wanted to tag memos electronically onto Spreadsheets then Memorandum is the tool. Notes can be attached via a simple menu option or a command key, cut, copy and paste between applications and notes. The windows of each note are resizable and you have a choice of fonts, styles and sizes for each note. Compatible with LaserWriter, ImageWriter, all hard disks and all leading spreadsheet programs. You will require a minimum of a 512k Macintosh. Available from Apple Dealers or Heyden & Son. No price as yet.



XPRESS GUARD

XPRESS is to be launched at the MICE87 show and has been called 'the dawn of a new Desktop Publishing era'. Aimed at the top end of DTP, XPress combines a full featured word processor, precision page layout and powerful graphics in the most professional publishing system yet launched for the Macintosh. The price is £695 + VAT and it will be available from Heyden & Son or through most Apple Dealers. It will be demonstrated non-stop at MICE 87.

Apple
IIC, IIGS
IIfx, IIGS

Springboard Publisher

MGA MicroSystems

Springboard Publisher is the first Desktop Publishing software for the Apple IIC, IIGS and will feature text entry and editing, automatic text flow around graphics and powerful graphic library facilities. All these features are accessed from pull down menus. Options will include a Laserwriter Driver. Available from MGA MicroSystems Priced £129.95

Paintworks Plus is the Apple IIGS equivalent of FullPaint and allows you to manipulate the colour built into the GS. Features include multiple brush size, shape, and pattern; a mouse interface, colour search, lasoo, colour replacement options and animation. All these features can be further enhanced by the purchase of an integrated word processor 'Writer's Choice'. At last GS owners can have a Mac like interface with colour. Available NOW from MGA MicroSystems.

Paintworks Plus
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IIGS
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RAM

MacScan is the latest high-speed, low cost scanner interface for the Macintosh. MacScan interfaces the Canon IX12 tabletop scanner and allows the quick capture of line art and halftone images. The supplied software allows the capture, editing, saving and printing of scanned images and supports all the popular DTP formats. You can print direct to a LaserWriter. The MacScan uses the SCSI interface and will scan at 300, 200, 150 or 75 dots per inch. Price £1895 + VAT. Available from Heyden & Son.

MacScan
Heyden & Son



Voila! is the latest in Outliners for the Macintosh 512k or Plus. It will turn your word processing documents into an outline in seconds automatically. Business plans, proposals and manuscripts are converted at a clic of the mouse. text and graphics can be part of any outline. Outlines can have a 'table of contents' created instantly, it is also possible to specify fonts, sizes and styles for a single Headline, a Level, a whole Family, or the entire Outline. Voila! reads and writes both ThinkTank and Text Only files and is compatible with all hard disks. Priced at £99 + VAT and available from Heyden & Son and most Apple Dealers.

Voila!
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DISK ZAPS AND ALL THAT (Part 6)

Conducting ProDOS with the MLI by Ewen Wannop

First encounters

So far in this series I have been talking about what can be done with disc zap programs such as Disk Manager, directly to the disc. I am going to digress a bit this time into discussing the MLI or Machine Language Interface used by ProDOS. The MLI handles all command instructions and can only be handled from a program. It is analogous to the RWTS and File Manager of DOS 3.3 combined. Unlike DOS, ProDOS has no internal commands that can be handled from a program or keyboard. All commands must be interpreted and passed to ProDOS by an external program through the MLI. The BASIC.SYSTEM file included on most ProDOS discs, when run, will in fact echo most of the commands you have grown used to from DOS. It is the modified Basic that is actually executing these commands, not ProDOS itself.

All entry to ProDOS is taken through the MLI at \$BF00, and associated with this is a Control Block which you must set up before you enter the MLI. ProDOS is a more complex system than DOS, but once mastered, it is very easy to actually use. File handling at machine code level is made very easy, and you can quickly set up custom disc handling from within your own programs. You will need to add a small routine into your program however, and set aside an 18 byte block for passing control parameters. This routine does all the hard work, and interfaces you to ProDOS. In machine code it would look like figure (1).

```

SYSCALL  JSR  $BF00    the MLI
          DB  CMNDNUM    the actual command number to be executed
          DW  CMLIST     a two byte pointer to the 18 byte control block
          BNE  ERROR     exit from routine
          RTS

ERROR     NOP          error handling routine, the ACC holds the ProDOS
                      error code

CMLIST    DS  18
    
```

Figure (1)

This could equally well be set up from a Basic program and then CALLED.

There are a great number of commands available and each uses the control block in a different way. Each has a command number associated with it, which is

CMLIST	+0 = 3	parameter count to follow:
+1		unit_num of device to look at
+2		low byte of a 512 byte data buffer
+3		high byte the buffer
+4		low byte of block number on the volume you want
+5		high byte of block number

Figure (2)

entered into the coding following the JSR call to the MLI. It would be impossible to deal with all of these commands in this article. I can only give an illustration of one or two to show how they work. I hope this will help you understand how to interface with ProDOS, and you will then be able to follow manuals such as the ProDOS Technical Manual published by Apple.

Ask a policeman

ProDOS files can be date/time stamped, and ProDOS itself can cope with certain clock cards if they are fitted. I suspect only a few have actually got clock cards fitted into their machines. However we can all set the time into ProDOS for date/time stamping, and we can all read off the time that is currently in the system if a clock card is fitted. I explained how the four time bytes were constructed in my last article.

Within ProDOS these bytes are positioned at \$BF90-\$BF93. A direct POKE to these addresses is all that is needed to tell ProDOS the time. Files written after that point will be date/time stamped. Do this from Basic or machine code.

To read the time, simply PEEK the same addresses. However, the time is not necessarily updated by ProDOS as it goes along. To read the current time you will need to do a call to the MLI, if no clock card is present these bytes will be unchanged.

The GET TIME command to ProDOS does not use the control block and so is slightly different from the norm. You only need to put the command number \$82 into the CMNDNUM byte and do a JSR to SYSCALL. No DW follows for the

control block, so there should be an RTS at this point. No error can be generated by this call. The four bytes at \$BF90-\$BF93 will be updated to show the new time. This should be done before each filing command to ensure that the clock is up to date.

Blocking the System

ProDOS has the equivalent of the DOS RWTS routine in two MLI commands, namely READ BLOCK and WRITE BLOCK. These will handle a block of two sectors back and forth to the disc. Most ProDOS MLI commands identify the target file either by the pathname of the file, or the REFNUM allocated when the file was OPENed. The BLOCK commands deliberately do not use either of these approaches, you must use the UNIT_NUM of the device you wish to access, this allows true disc zapping to occur. The UNIT_NUM quite simply is a number which tells ProDOS the Slot and Drive of the active device. Only the top four bits of the unit_num byte are valid, bits 4-6 are the slot number, and bit 7 is off for drive 1 and on for drive 2.

Using the routine I mentioned earlier, we must first poke \$80 for read or \$81 for write into CMNDNUM. Next we must set up the control block as in figure (2). The data buffer is a 512 byte

area of memory for the required block to be written to or from. Now do a JSR SYSCALL to do the actual work. Read or alter at will the buffer, and then write back to disc.

Filing made easy

Files are handled much the same way. There are various steps to handling a file. If it already exists, you would probably first wish to do a GET INFO to see what kind of the file it is. Next you would need to OPEN it, then you would READ it in chunks till done, then you would finally CLOSE it up.

To write a file, you must first CREATE the file, then it must be OPENed WRITen and then CLOSED up to finish off.

This handles most file handling and likely events. As I mentioned previously, Directories can be opened like files. To create a Catalog in your program, you must OPEN the directory, READ it and construct the catalog yourself, finally CLOSE it up again. This explains why most programs have catalogs that differ markedly from each other. It depends on the individual preference of the software writer.

The full list of commands available to Interface with the MU are detailed in figure (3)

NAME	CODE/DEFN
ALLOC_INTERRUPT	\$40 allocate an interrupt routine
DEALLOC_INTERRUPT	\$41 de-allocate the routine
QUIT	\$65 standard exit to SYSTEM file
READ_BLOCK	\$80 read block
WRITE_BLOCK	\$81 write block
GET_TIME	\$82 get the time from clock device
CREATE	\$C0 create a file
DESTROY	\$C1 destroy or delete a file
RENAME	\$C2 rename a file
SET_FILE_INFO	\$C3 get info on the file
GET_FILE_INFO	\$C4 change the info on a file
ONLINE	\$C5 find out active devices
SET_PREFIX	\$C6 change the default prefix
GET_PREFIX	\$C7 find out the default prefix
OPEN	\$C8 open a file for read or write
NEWLINE	\$C9 sets read to stop on a preset character
READ	\$CA read a chunk
WRITE	\$CB write a chunk
CLOSE	\$CC close up files
FLUSH	\$CD flush out buffers to disc
SET_MARK	\$CE set position in a file
GET_MARK	\$CF find out position in a file
SET_EOF	\$D0 set new length of file
GET_EOF	\$D1 find length of file
SET_BUF	\$D2 set new Prodos buffer
GET_BUF	\$D3 find current Prodos buffer

Figure (3)

The last word

Prodos is assured of a long future. The current Prodos has been updated to cope with the GS, and is now renamed ProDos8. A new Prodos has been created for the 16 bit mode of the GS, namely ProDos16. Current files in Prodos are compatible with the GS, and we are assured if they run on a //e they should run on the GS as well.

I have neglected Pascal and CP/M for some time, but will return to them in future articles.

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SHOW '87 - BEWDLEY

A report on the happenings at this popular event by Ivan Knezovich.

The show was originally planned as a two day event, it was unfortunate that heavy booking of Spring Grove House enforced us to shorten the show to just one day.

It was a hectic few days for the catering staff and I would like to thank them for all their patience and efforts on the day.

Apple U.K. sent up machines the day before and it was left up to Mary Ainsworth and her team to assemble it on the day. The Apple stand proved very successful and it will be a welcomed feature at future shows. The Apple staff were friendly, helpful and never too busy to lend an ear.

The Mac II was the star of the show and it was the first public appearance of the machine. Judging by the interest shown I think a number of members should soon be owning one.

The lecture theatre was well attended and my thanks go to David N. Cole, Ewen Wannop, Paul Russell and Keith Phillips for the stirring informal lectures that they provided. The brand new Apple2000 Developers Group was started at the show and



Cut price chaos
Showgoers delve into the bargains

interest in this area is booming. (See page 30 for further details.)

As the show is primarily a social day out and not a trade show, only a few supportive distributors were invited and these included Celtip Computers, Computers Unlimited, Dark Star Systems, Fairhurst Instruments, Heyden & Son and MGA Microsystems. I hope they made many more friends and customers at the show and please remember to support those who support us.

The most surprising feature of the day was the Apple Auction. It turned out to be the

biggest bargain clear-out that I have witnessed. I was pressed hard to try and sell the equipment at any price and it went for any price. In fact most purchasers couldn't believe what was happening, a few thought there was a catch.

Here are just a few of the silly prices.

Apple II	£70
Mac 400k ext drive	£45

New Apple Scribe Printer	£20
New Sweet Pea A4 plotter	£25
Micro Professors with joystick, printer & large keyboard	£15
Mac software, Megamerge, Filevision, Multiplan, Chart	£10
Appleworks Boxed	£15
Various Apple cards	£10 - £15
Prism Moderns	£12

You can see what you missed. Make sure you come next time! There was so much stock and so little time that we never got through all of it.

The highlight of the day was the presentation talk by Apple U.K. Keith Phillips gave us an informal look at the present state, progress and future of Apple. This followed with a question and answer session which raised a few eyebrows and even more questions. They were still talking as we closed the show. A fitting end for a superb day.

My thanks go to all who attended and especially to Mary Ainsworth and Apple, who provided the technical support and equipment.



Apple entertains
Keith Phillips explains Apples philosophy to the members.

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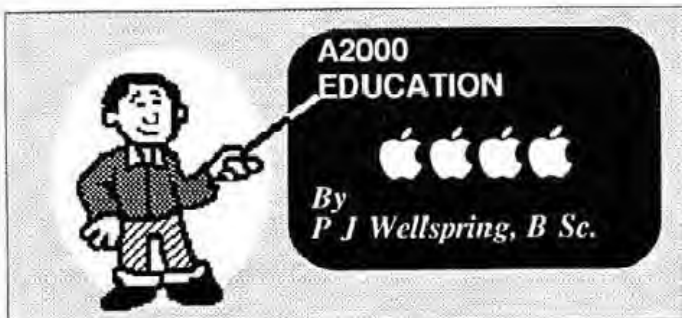
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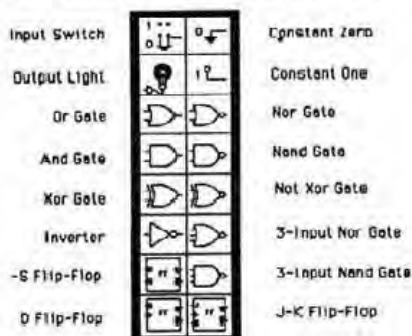
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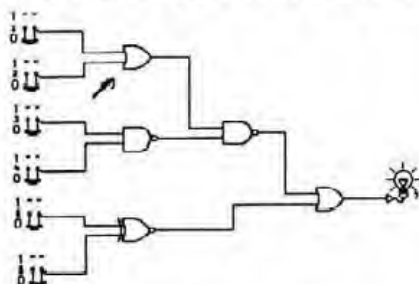
Digital Electronics Simulator

This is definitely one of the programs that I have been waiting for. Each year when the time comes round to start the digital bit on the syllabus, I begin hunting round to try to think of some way of easing the first few lessons. Usually it's some OHP or another but I never feel that the points get across until they get their hands on the chips and see the LEDs flashing.

But here is a simple program that needs little explanation to the students, gives them great freedom to experiment and leaves the chips intact.



After startup the student is presented with a drawing board and a palette with a limited number of logic gates. A circuit is set up by dragging a gate onto the board. These gates are then *soldered* together. Once linked they 'work' and bulbs are available to show 0's and 1's. Sources of either value are provided either direct or switchable. Three types of Flip Flops are available. Complex circuits can be built up and then saved as a sub-circuit to be recalled at a later time. An excellent option allows the values at the end of each gate to be shown continuously updated. There is also a simulation option that allows a student to apply varying values to the supplies and see the results plotted.



The program is available on a PD disk BUT it is *Shareware* and he deserves the money! (It comes with some MacWrite instructions.)

WHICH COMPUTER AND OTHER EVENTS

A brief look at some of the events over the last month with photo's of all the nice people.

WHICH COMPUTER SHOW.

The WHICH COMPUTER SHOW should be renamed the MS-DOS SHOW. The Apple stand was large and in the most prominent position but alas it was like an oasis in the middle of the MS-DOS desert.

As usual the Apple stand was subtle and it had a wide variety of dealers and distributors on hand to help the massive crowd. I managed to bump into some old friends and also caught a glimpse of some that I only knew by name. Clive Girling was holding the fort for Apple with serious help from MacSerious. Blyth had the normal presence and I managed to bump into Pammie of the Tech Support. We swapped some developers talk (Yes, I am a registered developer).



Fun on the Apple Stand.

L to R: Clive Girling (Apple UK), Jim Mangles and assistant Leslie (MacSerious), Keith Chamberlain and Jim Panks (Apple2000)

Then it was off to look at the DTP corner of the show. It was like the IBM had been made for DTP. Just give these PC people a new bit of software and they take the floor over. I was not that impressed with the IBM PageMaker - they could learn a bit from the Mac. LetraSet were performing with RSG 3 and the Monotype and Linotype crew were showing just what Postscript is about. Pity all those IBM persons did not know that IBM were about to put their eggs in the Postscript basket. Anyway best bit of non-computer hardware was the Omnicron - certainly improves the things you can do with a Laserwriter. Colour and OHP slides looked good - I hope that we can get one for a review!

Then it was off to the disk manufacturers for some free samples - well almost - after filling in the masses of forms etc. I still have not seen my free TDK disk.

By now I was suffering from withdrawal symptoms and I just had to get back to the Apple Oasis. On arrival I was amazed to see XPRESS being put through its paces by Heyden & Son.

Lots of money but 'boy oh boy' what a performer and that was the Beta Test version.

Heyden hope to release it very shortly and at the latest by the MICE 87 Show.

Greengate had by far the largest audience on the stand and they were putting the GS and associated musical hardware through it's paces. Very nice, shame I'm not that rich, and I have neighbours.

I had read all the tales of the MacTaff local group and eyeing up the name badges I managed to catch up with the light behind the group - Lorraine Thornback. Lorraine obviously knows how to look after them down in Cardiff because the group is growing.



Down in Wales - getting directions from Lorraine Thornback.

Well not much real Apple news at the show, however it would have been a different story if the new machines had been available!

MICE 87 PRESS LAUNCH.

The launch of this important event was a must and on arriving I found out just how much interest was being shown by the trade in general.

Iain Norton the MD of the organiser's Quantum Research outlined the effort that had been expended to attract the best exhibitors, speakers and audience. I was impressed to hear Iain and his colleagues talk about the interest being shown from all over the World. One point that I did not miss was the amount of response Apple2000 members were giving.

MacUser are sponsoring the show with backing from Blyth Software and all the User Groups. MacUser chose to announce that as from July they will be going monthly, this is good news because it must mean that the Macintosh has been accepted in business finally. Apple2000 are fully supporting the event and we will have a stand, we will also be holding a Developers Meeting on the Saturday.

Watch out elsewhere in the magazine for details of this important event.



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☎ 05806 4278

LETTERS TO THE EDITOR



Dear Editor

Being an enthusiastic user of the Omnis 3 database programme on an Apple IIe computer, I thought I would pass on a tip concerning its use. It seems an obvious thing to do but no-one has mentioned it, so here goes.

Although I do not maintain a very large amount of data on any database, I do a considerable amount of sorting and selection to produce varied reports from that information, and as Omnis users will appreciate, that entails a lot of disc activity, with disc drives running continuously for anything up to one and a half hours for some applications! (I have only 5.25" drives.) This is no good for drives, or one's nerves!

I recently added a PlusRAM 1Mbyte card to the computer and the solution was obvious, format the RAM card as a volume, transfer the data files and associated library files to the RAM volume, and select, sort, and print to

your heart's content without a single disc access. Hence, no unnecessary wear on drives, discs, or ears!

To do this I boot up Pascal 1.3 from Slot 6 Drive 1, format the RAM card as a Pascal volume using Formatter from Apple3. The RAM card then appears as Volume 9. Exit Pascal and boot up Omnis 3 (Pascal 1.3 version) from S6/D1 and using the disk utilities from the Main menu, copy the Library files and data files onto Volume 9. Return to the Main Menu and enter the main Omnis programme as usual.

Obviously this should only be done if no additions to or editing of the files is required, but it saves a great deal of disc activity when producing reports or similar activities. It's a great deal quicker as well!

Yours faithfully,

James Danby

Editors Note:

Thank you James for the useful information - hopefully other members will take your lead and send us some hints and tips.

Dear Mr Panks,

I noticed with interest that you are doing a review of Bookkeeper II and I am wondering on which machine you will be testing it....

.... I recently had a go with this program on my Apple IIe and found it unacceptably slow....

.... I do think that this program's short comings on the IIe and IIc should be clearly stated so that other potential users will be saved the time, trouble and cost of trying a program that does not in my opinion live up to expectations....

Yours sincerely,

John Osborne.

Editors reply.

Thank you for your letter.

On contacting the author we found that he agrees with your comments and this program is much happier on a IIGS. It will run on a IIe & IIc but the speed of operation will be slower.

MANUAL & AUTOMATIC DATASWITCHES AND BUFFERS FULL TWELVE MONTHS GUARANTEE

"PRINTERSHARER" Several Micros to one Printer
"PRINTERCHANGER" One Micro to several Printers
"PRINTERCROSSOVER" Two Micros to two Printers



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Model	Pins	Ways	Price
BPS3	26 (BBC)	3	£60
BPS3C	WITH INTERLINKS		£75
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BPS6C	WITH INTERLINKS		£140
APS2	36	2	£75
APS3	36	3	£85
IPS2	25D (IBM)	2	£70
IPS3	25D (IBM)	3	£80

PARALLEL PRINTERCHANGER SOLID STATE MANUAL

BPC3	26 (BBC)	3	£60
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APC3	36	3	£85
IPC2	25D (IBM)	2	£70
IPC3	25D (IBM)	3	£80

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SR232	25D	2 way	£55
SR233	25D	3 way	£65
SR234	25D	4 way	£75
SR43	50IN (BBC)	3 way	£40
SR292	9D (Mac)	2 way	£52
SR293	9D (Mac)	3 way	£59
SR2C	50IN (i/c)	3 way	£40

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APS3A	Parallel 36 pin	3 way	£115
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SR234A	Serial 25D	4 way	£180

PARALLEL PRINTERCROSSOVER SOLID STATE MANUAL

BPX	26 (BBC)	2X2	£70
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IPX	25D (IBM)	2X2	£85

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SR432X	Serial 5 pin DIN	£45
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SR2CX	5 Pin DIN (i/c)	£45

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Add postage: Switches & Buffer £3.00 each. & cable £0.75 each + 15% VAT

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MEMBERS' SMALL ADS

HELP!

Help me track down a copy of the following books please?
I'm desperate enough to pay money for a copy, if you have one and are willing to sell it, hire it out, or loan it out, please contact Tom Wright on 01223 711113
The books in question are:

The Little Kingdom (by Michael Moritz) published by William Morrow & Co Inc ISBN 0-688-03973-1
Hackers (by Steven Levy) published by Anchor Press / Doubleday ISBN 0-385-19195-2

Does anybody know if Apple-writer can be modified to use Pinpoint? If so how is it done? If you know how to do it, or can work it out, please let us know.

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The Macintosh Pages

MacCHAT

Edited by Norah Arnold

Coming at last, the Macintosh with a larger screen, open architecture, colour and a higher speed. Strange, but I am not feeling a great deal of excitement about it, now that it has been announced.

Why not? Well, I admit that the Macintosh II is now the machine that I would most like to own, but the possibility of that ever happening seems extremely remote.

Of course there is the outside chance that our little syndicate at school may win the pools properly one of these days. I say 'properly' because we actually won last week and the twenty or so involved just could not agree on how to spend our winnings. Eighty-four pence is such a difficult amount, don't you think?

So my pleasure in the new machine is severely dampened by the thought that it is out of my reach at present, even though the Motorola 68881 is one of the reasons why the Macintosh II appeals very strongly to the mathematical side of my nature.

It will also, I fear, be outside the reach of any educational institution in the U.K. other than universities and other branches of higher education, the larger and more affluent further education establishments and, of course, the private sector. It becomes harder, month by month, for me to happily return to the little group of 32K Beebs waiting for me in school.

Page One: Automated Book Typesetting

McCutcheon Graphics, one of Canada's largest pre-press suppliers to the graphic arts industry released its Page One™ automated book typesetting software for the Apple Macintosh in January at San Francisco. The book author prepares his manuscript using Microsoft WORD formats and submits it as a set of disks. After editing the manuscript on the Macintosh using any Word-compatible word processor, the publisher chooses one of fifty templates representing standard

book designs and enters its number on a simple screen form on the Macintosh, together with optional page format information. Using this template, Page One prepares output compatible with any PostScript printer.

According to McCutcheon Graphics Product Manager Thad MacIlroy, book designers have been reinventing the wheel with every new book for hundreds of years, but now Page One will eliminate that unnecessary step, along with manual typesetting and proof reading of typeset galleys. It also opens up low-cost book production to small book publishers by reducing turnaround time and expense of book publishing. It also gives the publisher tools for specifying running heads, page density, and printing parts of a manuscript by page number. In addition, output can be printed at magnifications up to 180%, allowing standard laser printers to produce 540 dots per inch output after photoreduction. If higher resolutions are required then the publisher can easily interface with other devices to achieve resolution of up to 2540 dots per inch.

Page One was co-developed by Thad McIlroy, formerly an author, publisher, bookseller, and editor of over 40 titles, noted book designer Garfield Reeves-Stevens, author editor and designer of over 300 titles, and Toronto-based FTL Systems, publisher of MacTeX. Page One was created with FTL's MacTeX software and the only prices available are \$2000 USA, \$2500 Canadian. For MacTeX owners the prices will be \$1500 (\$1750 Can). Page One requires a Macintosh Plus and hard disk and supports any PostScript compatible printer.

For further information, contact

McCutcheon Graphics Inc.
130 Bridgeland Avenue,
Suite 101,
Toronto,
Ontario, Canada M6A 1Z4
Tel (416-789-2993).

MORE Updated

Living Videotext is the leading publisher of software which allows for the creation and manipulation of text in outline form. ThinkTank, the company's original product, was the first outline processing application published for personal computers and remains the industry's best selling outline processor. MORE was presented to the market as the first idea processing and presenting application for personal computers and received Best Product of the Year for 1986 in the second annual Editor's Choice Awards from MacUser magazine as well as winning the Best New Organizer Award.

MORE was aimed at, and appears to be appreciated and used mainly by professionals such as lawyers, managers, researchers, executives and educationalists who spend much of their time thinking, planning, writing and organizing their thoughts. As an outliner, MORE combines the flexibility and organizational power of idea processing and presenting with the graphic capabilities of the Macintosh. Living Videotext report that the original version of MORE, introduced in June 1986, has already sold more than 30,000 copies.

The new updated version 1.1 of MORE incorporates new features suggested by users. These include:- an undo command; selective text styling, providing italic, boldface, shadow, outlining and underlining of headlines, documents, tree and bullet charts; multi-level bullet charting, which allows for the display of entire outlines in bullet form for presentations; keyboard control, which allows users to select menus and commands from the keyboard. Also available is an outline database disk which is based on General Information's National Directory of Addresses and Telephone Numbers (of the United States, of course). The disk provides more than 2,000 listings of businesses including major U.S. corporations, government

agencies, airlines, hotels, car rental agencies, computer hardware and software companies, retailers, colleges and universities.

Acta™ 1.2

The popular desk accessory outline processor Acta has been upgraded to version 1.2. Now Acta can directly print to the ImageWriters or the LaserWriter. Users can specify the number of generations to print, the number of generations to label and the label type. A Smart Paste feature allows data from spreadsheets, databases and other outliners to be automatically formatted into topics and subtopics when pasted into an Acta outline. A Topic Split feature allows a topic's text to be split into subtopics with a single menu selection or keystroke. Also a new 'Collapse Family' menu command has been added. Acta is marketed by Symmetry Corporation, 761 East University Drive, Mesa, Arizona 85203 Tel (602) 844-2199.

MacroMind Update VideoWorks

MacroMind have announced the formation of MacroMind Publishing, a new division of MacroMind Inc. MacroMind Publishing will be selling new versions of VideoWorks, M.U.D. (MacroMind Utility Disk) and MusicWorks as well as their multi-player game MazeWars+.

VideoWorks will be available in two versions, VideoWorks II and VideoWorks Interactive. The original product has been improved by adding icon oriented editing, better graphics tools, text editing, Macintalk, sampled sounds, slide show capabilities and several more advanced features. This new product, renamed VideoWorks II, should be available by March 1987.

VideoWorks Interactive is going to be even better than VideoWorks II. MacroMind say that instead of watching animations, you will be able to interact with them by clicking your mouse on any piece of artwork or typing at the keyboard. VideoWorks Interactive will allow simulation of an application or a new user interface. Animations can stop, ask a question, then proceed based on the answer. With the tools provided by VideoWorks Interactive educational courseware, business presentations or research tools can be developed. The

program comes with a complete procedural language that can communicate through the serial or SCSI ports of the Macintosh, record and test text input from users, branch or jump to subroutines and it also supports the Macintosh toolbox. Windows and menus can be created and all keyboard or mouse actions can be tested or parsed.

A disk full of templates and example animations will be provided, together with artwork ready to animate and libraries of often used code for the language.

A run-time player called the Tour Engine will come with the product together with a license to copy it fifty times. MacroMind state that Apple, Microsoft, Ashton-Tate, Letraset, SuperMac and Monogram have already licensed the Tour Engine. VideoWorks Interactive should be available by April 1987.

Macs to VAX

With sales of both Apple Macintosh and DEC VAX computers going well, White Pine Software have developed a Macintosh to VAX link which turns a VAX running VMS into a file cabinet for your Macintosh. With VMacS™ on the VAX and a terminal emulator on the Macintosh you can send and receive files from, or to, the VAX. The VAX can serve as a temporary storage place for files, a file archive, or a way of sharing files among a group of people.

VMacS can transfer Macintosh files of any type or VMS text files. MacWrite or Microsoft Word documents stored on the VAX can be viewed, printed or transferred to a VMS text file in draft mode. VMacS helps to organize your files by gathering them into partitions and annotating them with descriptive information.

VMacS will work with most terminal emulators that support the XMODEM file transfer protocol over a standard serial communications link (dialup or hardwired). White Pine have also produced the Mac240 communication package to run on the Macintosh. This package gives users three options: Macintosh access to VMacS; Macintosh access to mainstream VAX application software; Macintosh to Macintosh communication. With Mac240, many users can avoid the need for a separate graphics terminal and can use Mac240 to transfer text and graphics from VAX software to other programs.

Mac240 provides a fully-featured emulation of DEC's VT240 text and graphics terminal, including ReGIS graphics. In its latest release, Mac240 adds emulation of Tektronix 4010 and 4014 graphics terminals and supports eleven special international character sets.

While Mac240 delivers VAX to Macintosh graphics, another package called Reggie allows graphics communication from Mac to VAX and to the DEC peripherals beyond. Reggie converts MacDraw, MacPaint and Clipboard images for VAX storage and presentation on DEC graphics terminals and DEC laserprinters. Reggie also allows Macintosh users to add colour to Mac graphics when displayed on DEC VT241 or VT125 colour graphics terminals. Reggie converts Apple-based graphics instructions to DEC's ReGIS and SIXEL formats.

More information can be obtained from White Pine Software, 75 Route 101A, P. O. Box 1108, Amherst, NH 03031 Tel (603) 673-8151.

Design

Design is a program for complex problems that need to be seen graphically in order to be understood. According to Meta Software Corporation, Design helps the user to visualize any complex system, whether it is a flowchart, an information network, a computer program, an organizational chart, a production line, a decision tree or in fact anything which requires a graphic representation to best illustrate the concepts, and especially the relationships between its elements.

Ideas can be expressed through a variety of relationships within Design. Connections between graphic objects are remembered and redrawn automatically. Relationships can be created with text contained within graphic elements. A graphic database allows multi-page diagrams with successive levels of detail. The hierarchical nature of Design permits sophisticated layout and manipulation of both simple drawings and complex system diagrams. It is hoped that this product will be reviewed in a future issue of Apple2000.

The USA price is \$200 and the program requires at least 512K. More information can be obtained from:

Meta Software Corporation,
55 Wheeler Street,
Cambridge, MA 02138.
Tel (617) 575-6920.



The Next Dimension...

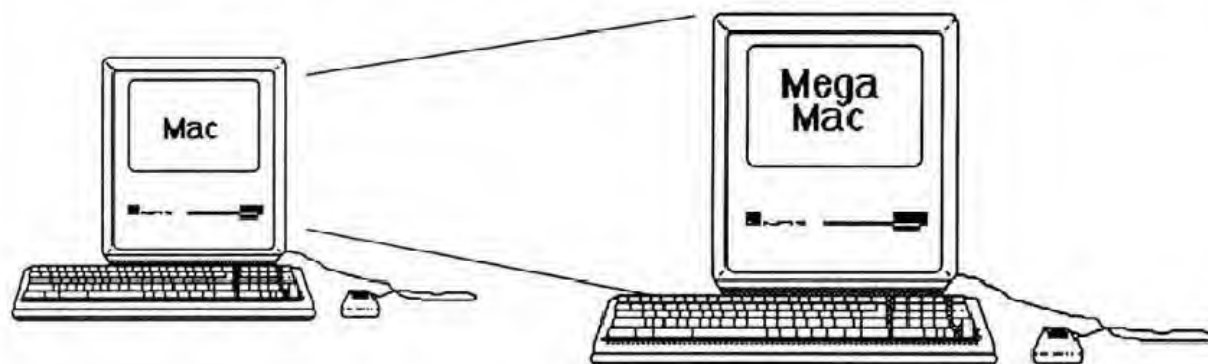
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MegaMac 2	for the Mac SE
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FONTGRAPHER™

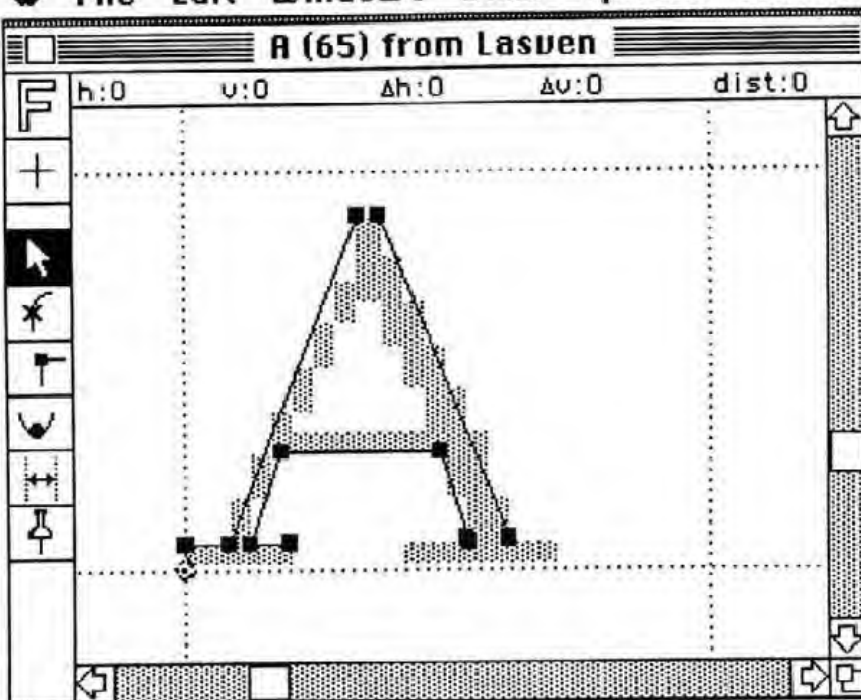
by Norah Arnold

Fontographer™ is a graphics editor specially designed to make PostScript font definition fast and easy, so facilitating commercial quality typeface design on the Macintosh. No knowledge of PostScript is necessary as the user draws each letter with a selection of tools and then Fontographer converts these visual descriptions to PostScript which can be sent to the LaserWriter and may be used to print any document the user requires.

To create a new font in Fontographer, the user draws the outline of each character. The only way to see what the outline looks like filled is to print a sample of the font on the LaserWriter. It is also possible to create stroked fonts, such as the typewriter font Courier, where each character is constructed from lines of equal thickness.

When a font is opened from within Fontographer prior to editing, a window is displayed which describes the font. An example of this window is shown at the bottom of the page. Most of the window is filled by the 256 character slots, each corresponding to a character which can be typed on the keyboard. A character slot is not restricted to containing characters but can contain a logo or any other small graphic image. By selecting the correct button the format of the code displayed in the upper part of each slot can be changed from hex to decimal or octal, or show the relevant key to press for each character.

File Edit Windows View Special Effects



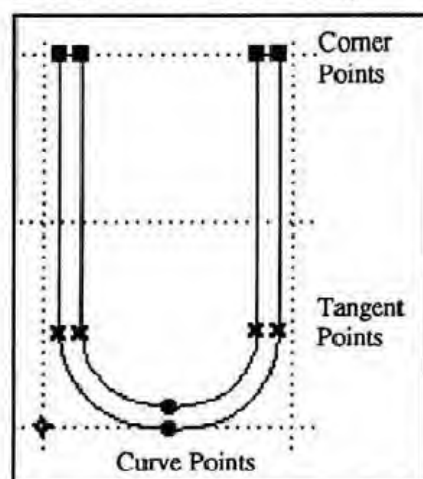
The Character Window showing a template being used as a guide

The character slot of a character which has been selected for editing is shown highlighted. Clicking a slot or typing a character will select that single character, but a range of characters may be selected for editing by dragging the mouse across a range of consecutive slots. Normally the user double-clicks on the slot of the character which requires editing and the font character window appears with its title depicting the name of the character within the window and also the name of the font from which it comes. The pointer position display is

Lasven															
<input checked="" type="radio"/> System <input type="radio"/> Actual <input type="radio"/> Hex <input checked="" type="radio"/> Dec <input type="radio"/> Oct <input type="radio"/> Key															
64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79
@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95
P	Q	R	S	T	U	V	W	X	Y	Z	[\]	^	_
96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111
`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127
p	q	r	s	t	u	v	w	x	y	z	{		}	~	

above the drawing area. The display continually shows the position of the pointer as long as it remains within the drawing area.

The lefthand side of the character window shows the choice of indicators and tools. The top indicator shows which of three possible drawing planes has been selected and is in use. An F indicates that the foreground plane, where the character is actually drawn, is in use. A small Guidelines display shows that the user may move and change the lines which are shown on the window as an aid to positioning the character. If a B is shown then the background plane, which may hold a template, has been selected. The second indicator shows clearly



which constraint is currently in effect; the choices being horizontal, vertical or both.

The first tool in the palette is the selection pointer which is mainly used for selecting points and fine tuning their positions. Next come the three main drawing tools which enable the user to draw tangent points, corner points and

curve points. These are followed by the tool used to adjust the width of a character and finally the tool which positions the basepoint.

Within Fontographer shapes are defined in terms of their control points and the three types are illustrated on the left in relation to the construction of a U. Corner points may be used to construct straight line segments, to join straight lines to curves, or to join two curves at a cusp. Tangent points are used to join line segments to curve segments with a smooth tangent join. Curve points are used wherever curve segments are needed as they are able to join curves to curves with a smooth tangent join. Each curve point has an associated Bezier Control Point or BCP. When a curve point is selected its BCP is shown on the screen as a small cross. The figures below show some of the manipulations which are easily done using the Bezier curves. The ease with which curves are drawn makes Fontographer score a strong point over LaserWorks™.

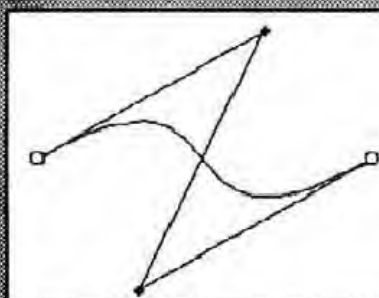
Character Information

Name	at		
Stroke width	<input type="text" value="0"/>	Fill (% black)	<input type="text" value="100"/>
Fill Type	<input checked="" type="radio"/> Normal	<input type="radio"/> Even/odd	<input type="radio"/> None
Line Cap	<input checked="" type="radio"/> Butt	<input type="radio"/> Round	<input type="radio"/> Square
Line Join	<input checked="" type="radio"/> Miter	<input type="radio"/> Round	<input type="radio"/> Bevel

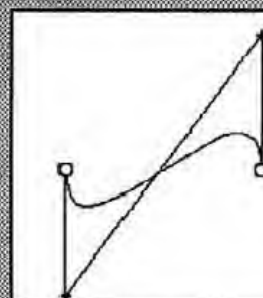
☐ Outline this character after drawing it

OK

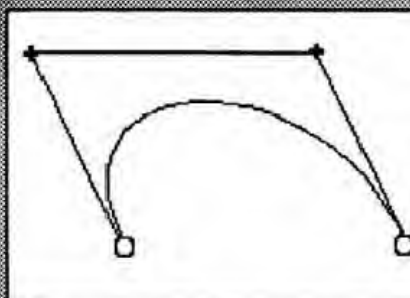
Cancel



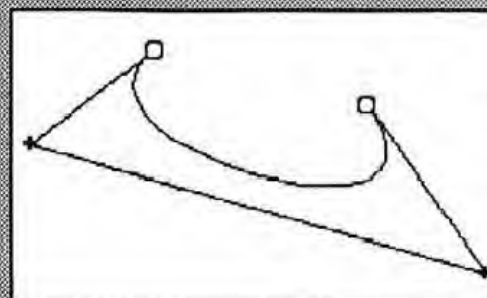
Here the two curve points, which appear as open circles, are shown with their Bezier Control Points. By dragging the BCP's some very different curves are made.



The lines shown here joining the curve points to the Bezier Control Points and the BCP's to each other, do not appear on the Fontographer screen. The manual is helpful in explaining the relationship between the Curve points and the BCP's.



Unlike the curve above, this curve is formed by dragging both the BCP's in the same direction. They can be positioned very accurately by the pointer display.



Playing with the control points and experimenting is the best way to learn.

Select Print Sample Type

☒ **Default Sample Text**

☐ **PostScript File:**

Change File

☐ **Text**

Orientation: ☒ **Portrait** ☐ **Landscape**

Point Size **36**

The quick brown fox jumps over the lazy dog.

OK **Cancel**

Fontographer generates four types of font file each having its own kind of icon. Outline font files contain editable outline descriptions and are usable only within Fontographer. Their icon is a standard Macintosh document icon with the letters A to I arranged on it. Next come the PostScript font files which contain the generated PostScript in a form which may be downloaded to the LaserWriter. The file names for these particular files are generated automatically by Fontographer, the name being a contraction of the outline font file name. If a PostScript font file is copied into the System folder, or into the folder containing the program doing the printing, then the file will be automatically downloaded to the LaserWriter during printing. Bitmap font files are similar to those normally used

must be chosen according to certain rules because the Macintosh print manager abbreviates PostScript font names according to a complex convention. The rules are clearly specified in the manual.

The Print Sample... command in the File menu enables a sample of the entire font to be printed any time that the font window is active. Choosing this command displays a window allowing several printing options. Default Sample Text prints a standard print sample in 60 point size. Text generates a quick sample print using the one line of text which you may type in the box as shown above. Clicking PostScript File provides custom print samples and allows a PostScript file name to be specified. Several PostScript text files are provided with the

by the Macintosh and manipulated by the Font/DA Mover, whose icon type they use. Fontographer also generates an Adobe Font Metrics file when it generates a PostScript file but this file is not normally used by Macintosh software.

Any time that the font information window is active, the user may choose the Font Attributes... command from the File menu. This causes the Font Attributes editing window to appear. As the font characteristics which can be edited here are attributes which apply to the font as a whole, the changes will apply to each and every character. The appearance of the Font Attributes window is shown below.

Anyone using Fontographer for the first time would be advised to pay attention to the section of the manual which describes the limitations which are applied to font names. The names of outline fonts

Font Attributes

Ascent size	780	Descent size	220
Leading size	0	Stroke width	0
Underline position	-146	Underline width	20
Family ID	200	Number of chars	256

Notice

☐ **Use the 'smear and whiteout' method for outlining characters**

OK **Cancel**

Blistering Speed and Perfect Engineering

TurboMax™

MacMemory's new and brilliantly designed TurboMax speeds the Mac 300%, adds 1.5MB of memory (on-board expansion to the full 4MB), doubles SCSI performance and protects RAMdisk contents even through system crashes. Optional plug-in 68881 runs numerical work 60 times faster! Complete with MaxRAM/MaxPrint RAMdisk/print spooler software and MaxChill, the silent fan (a cool Mac is a reliable Mac).

Best of all, TurboMax is 100% compatible with all Mac software, fits in minutes and requires no modifications of any kind. Unlike the £5000 competitor.

Excellent design and advanced manufacturing techniques combine to make TurboMax the finest price performer ever offered for the Mac. With full 2 year no-quibbles warranty, the best in the industry, TurboMax from MacMemory is the most significant enhancement ever offered for the Mac. At a stroke your Mac will outperform every PC and most minis. Works with Mac Plus and 512K/800K Mac.

The cost is an astounding £1195!

"All memory is not created equal. At MacMemory we strive to put the best design and engineering into our products, so you get excellent performance at a price you can afford. We seem to be doing something right, too, since our MaxPlus is by far the most popular upgrade for the Mac." Carlos Suarez, MacMemory

MaxPlus™ 2x4 & MaxSave™

MaxPlus is the finest memory upgrade for the Mac, taking the Mac Plus to 2MB with capacity for further expansion to 4MB. Complete with MaxRAM/MaxPrint and MaxChill. Your Apple warranty is not voided (when MaxPlus is installed by your Apple dealer), and you get our own 2 year warranty, too.

MaxPlus outsells all other upgrades combined, for good reason. MacMemory engineering is simply superior. It's a fact.

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Now megabit chips are affordable, MacMemory provides expansion to the full 4MB with MaxPlus 2x4. Like all MacMemory products, MaxPlus 2x4 uses the same surface mounted technology as Apple (meaning more reliability for you). Fitted in minutes, no modifications required. More memory is not a luxury, it's an essential part of high-productivity systems. Running programs and data at memory speed from RAMdisk, big spreadsheet users, high-res scanning (each image can exceed 1MB), Switcher users... all these areas require more memory.

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"...I fitted MaxPlus, autobooted my system and applications into a large RAMdisk, set a big RAM cache and still had room for a massive spreadsheet. And I reckon I save an hour a day by speeding everything up. Working at memory speed is that fast."

World's Best Price Performer... 80MB SCSI £1995!

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In partnership with some of the best disk specialists in the world, we developed MacEurope's answer to the storage problem. Our TurboDrive80 is fast, very fast. How fast? Under 30 ms access time, 80 reads across 1MB take 2 seconds, a 32KB write takes 0.16 seconds. This is mainframe style performance at Mac style cost. TurboDrive80 is reliable, with excellent media defect detection and correction built right in. It's compact, half the height of Apple's hard disk with the same footprint. And it's quiet. With 4MB of very useful software.

Full 1 year warranty. Demand is high, so don't delay. Ask your dealer for a demo.

JustText™

JustText™ has earned itself the reputation of being the professional quality typesetting and page composition system for the Mac. More and more people who care about the appearance of the printed page have put aside toy software and come across to the only system with complete control, flexibility and speed. With no compromises.

JustText™ isn't some micky mouse typesetting/page description implementation. It's the real thing. Kerning and vertical justification in units of 1/1000 point, fractions (as you just witnessed), drop caps, hyphenation, typographically correct character spacing, indents, rules, boxes, powerful macros, condensed and expanded type, auto-downloading fonts, tabs... everything you need to remove guesswork and do it right. Completely integrated with graphics, including automatic text wrap which actually works. Quickly and easily. Beautifully.

And full access to PostScript.

"...as a designer, I want text and graphics to be under my complete control at all times. And JustText™ gives me that."

JustText™ Scanner

We're specialists in top quality halftones (see our leaflet for an example) derived from ThunderScan or 300 dpi scanners. Now we have our own 300 dpi scanner system which we believe sets new standards. The scanner itself is compact and fast and comes with software to integrate with all Mac page layout software. JustText™ users can, in addition, obtain improved halftones by using our professional quality JustText™ scanning software. Scanner price is £1995. One year warranty.

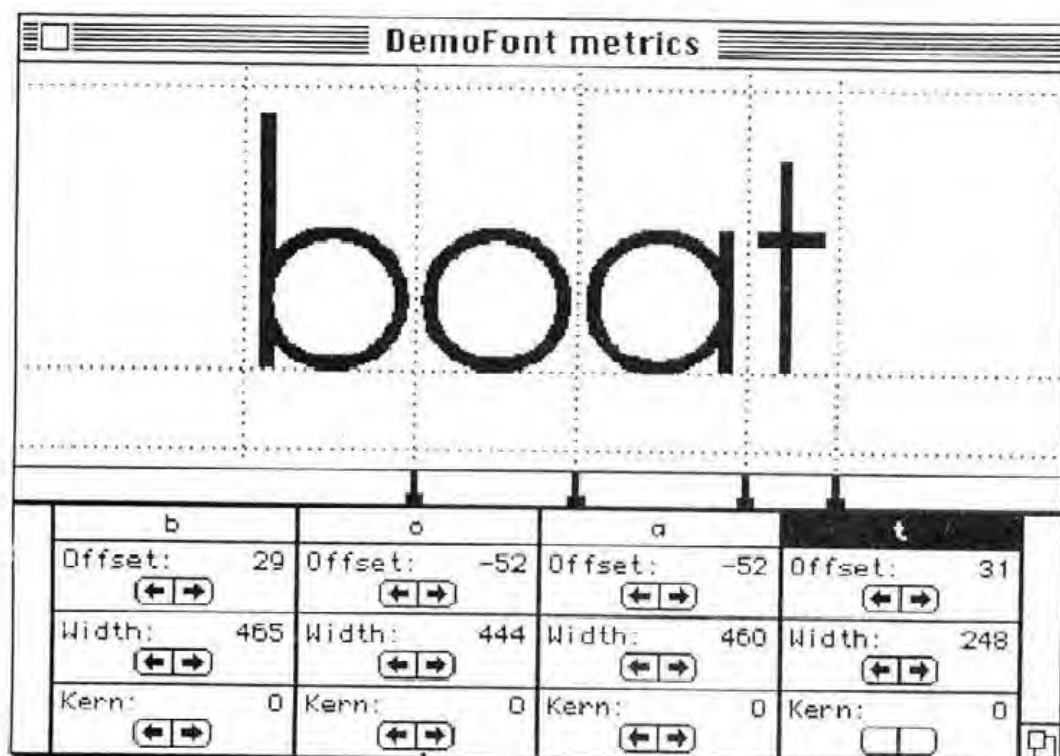
Send me your data sheets on: MacMemory TurboMax ☐ MaxPlus ☐
MaxSave ☐ Max 2, 2-4MB upgrade for 512K Macs ☐ 512K SCSI port ☐
MaxRAM/MaxPrint ☐ MaxChill ☐ JustText ☐ JustText Scanner ☐
TurboDrive80 ☐ High-resolution big screen ☐ My nearest dealer ☐
Name _____ Tel: _____
Address _____

MU03

"I like those guys at MacEurope. They know what they're doing. And they've got a great sense of humour."

MacEurope

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Professional Services for Apple Macintosh and Lisa. Call us. We are here to help.



you may customize any characters you wish, the only other fonts that Fontographer allows you to edit are those which have been constructed by the program. Unless these fonts have been constructed by yourself many of them are likely to have been made the copyright of the designers and so are better left alone.

Fonts such as those used by the Font/DA Mover program consist of bitmapped images of the characters. Fontographer is able to automatically generate bitmapped fonts in a range of sizes. However large fonts generated in this way may overflow some Macintosh memory size limits. This is very likely to happen if the font has

program and these may be edited to provide customized print samples.

Instead of having a 'zoom' feature, Fontographer has a capability called a 'demagnified move'. The normal scale factor within Fontographer is five units to one screen dot. It can be difficult to position points accurately at this scale so the demagnified move was developed to allow for more detailed work. If the Command key is held down while dragging points in the character window, then the motion of the cursor is immediately changed to a scale where two screen dots of motion are required in order to move one unit. The benefits of this are that the user retains an overall view of the whole character which would be lost if a normal 'zoom in' was done.

One of the features of Fontographer that I particularly like was the metrics window. The tools in the character window allow a certain amount of adjustment of spacing but in order to adjust the metrics accurately the characters should be seen in context alongside other characters. It is for this reason that Fontographer provides the metrics window which displays several characters simultaneously with the intercharacter spacing depicted as well as is possible on the screen.

As you can see from the screen dump, the top part of the metrics window is the character display area. The font's ascent, descent and baseline are depicted by dotted lines, as is the width of the characters. The indicators below the character display area are used for adjusting the width and kerning information. The manual is very helpful at this point and describes the steps to take in detail.

I must admit that I would have liked Fontographer to be able to depict the filled-in version of a character on the Macintosh screen. For those of us not wealthy enough to own a LaserWriter and who have to travel away from home in order to print on one, it is an unnecessary hassle to find that when you see your newly created logo or character filled in at last, it does not really give the impression you wanted.

Although Fontographer lets you use the LaserWriter's built-in fonts as the basis for the construction of a new font so that

more than 100 characters and has a size greater than 36 points.

Altsys do accept that the quality of bitmapped fonts generated from within Fontographer will not be high, and it is because of this that their FONTastic™ bitmap font editor is bundled with the Fontographer package. This means that anyone who has a bitmapped font from Fontographer's Generate Bitmaps... command may then clean them up if necessary in FONTastic. However, to quote from the Fontographer manual, "People trying to make fonts which work well on both the ImageWriter and the LaserWriter are in for a tough time. Optimizing for one printer causes problems with the other."

A last thing to note, the screen dumps used in this review are bitmapped images. For instance, the Bezier curves would have looked much better printed straight to the LaserWriter, however, time is of the essence.

Final conclusion:- an excellent program for the professional, not for the playboy.

Program: Fontographer™
 Publisher: Altsys Corporation
 Hardware: Macintosh 512K, Plus or XL. An external disk drive or hard disk is highly recommended.
 Price: £375.00
 Obtainable in U.K. from
 MacSoft,
 Bridge House
 Wellington,
 Somerset, TA21 0AA
 Tel (082 347) 3625

Please note that in the last issue I stated that LaserWorks™ was sold by MacSerious. This should have been Dynamic Office Systems, Europe Ltd, PO Box 6, 17A Lim St. Powys, LP3 7YP, price £275.

News from Apple™

Apple have extended their product line and revealed a new communications strategy

Apple Computer UK Limited have revealed several new communications products to complement the two new high end CPU's and the associated peripheral products which were launched at the same time.

Describing Apple's communications strategy as an integral part of the new product marketing strategy, managing director David Hancock said, "Apple's communications framework is based on building blocks which incorporate a consistent set of platforms for the development of further products. Such a strategy will enable Apple to apply its business solutions in a widening range of computing environments.

With the objective of meeting the many and complex demands of business computing, Apple has developed products which allow groups of people working together to share information in meaningful ways. Users can access and exchange information with MS DOS-based systems and communicate with mini and mainframe systems without having to learn new and complex procedures. Both independently and in association with third party developers, Apple has ensured that configured solutions for users are provided to meet their individual communications needs.

Products allowing access to MS DOS-based data in two different ways are now available. Apple has announced a 5.25 inch disk drive which will allow Macintosh files to be written in MS DOS format and vice versa, plus the AppleTalk PC Card for users of IBM PC and compatible computers. It permits the exchange of files with Macintosh computers, electronic mail messaging over the AppleTalk network and the

production of professional printed output through the Apple LaserWriter printer, direct from popular MS DOS applications.

Coprocessor cards, which will be available this autumn, will further extend Apple's communications strength in providing the ability to run the MS DOS operating system on both of Apple's new CPU's, the Macintosh SE and the Macintosh II."

AppleShare is Apple's new fileserver software that provides access to shared information for up to 25 users on an AppleTalk network. "Apple's simple to use yet enormously effective AppleTalk network lays the foundation for much of our current and future Desktop Publishing development," says Chris Jones, communications product manager at Apple UK. "We have an estimated 50,000 AppleTalk networks installed worldwide with over 250,000 devices connected. Our communications strategy today is extending the capabilities of AppleTalk and opening it up to non-

Apple users. We want them to take advantage of the valuable facilities it offers through these new products."

LaserShare is another software product which provides print spooling services to users of the AppleTalk network. Available from May 1987, LaserShare will allow desktop publishing users to manage more efficiently the production of printed output. "LaserShare permits more effective scheduling of hardcopy output from the LaserWriter. Users can now get high quality copy to other people more quickly when needed," says Jones.

LaserShare runs on a dedicated Macintosh Plus, Macintosh SE or Macintosh II, or alongside the AppleShare fileserver.

Consolidating the thrust into the multi-user market place which is spearheaded by the Macintosh II, Apple will provide a version of the UNIX operating system later in 1987, which, together with an Ethernet card will allow users to integrate the Macintosh II into UNIX-based networks and use the Macintosh II as a keenly-priced workstation.

"These developments have dramatically enhanced the communications scope of the Macintosh family of computers," says Jones. "Our users need access to widening horizons of information on different systems in different locations. Apple's new products help bring information into the Macintosh world, where it is simple to manipulate and enhance. We are responding to our users' needs by providing solutions which allow access to information without asking our users to learn new operating systems and procedures."

AppleShare

AppleShare is a workgroup file server which Apple believes will extend the single user thinking of personal computer users towards network thinking.

AppleShare is a software package that will allow up to 25 users to access documents, folders, applications or whole disks of information from anywhere on an AppleTalk network, as if it were resident on each user's own Macintosh.

"There are currently more than 250,000 AppleTalk devices operating on an estimated 50,000 networks worldwide," explained Chris Jones, communications manager at Apple Computer UK.

"With such a large customer base we recognised the need for Apple's own file server as part of our long term communications plans for Macintosh users. AppleShare is the first product to incorporate Apple's published standards for the AppleTalk Filing Protocol (AFP). Independent software and hardware developers now have consistent network standards for designing products for the Apple environment."

Information security is assured by AppleShare's powerful access control features that let users selectively share information stored at file level, disk level or volume level. Access controls operate within the familiar Macintosh environment, which is easy to use and therefore requires minimal user training.

"Nearly all of the existing Macintosh application software will run, unmodified, on AppleShare," says Jones. "An additional network service such as an electronic mail server can also be run on the same system that runs the AppleShare file server. Capacity on the network can be increased by adding disks to provide virtually unlimited on-line storage, all under the control of the AppleShare software."

AppleShare requires a dedicated Macintosh Plus, Macintosh SE or Macintosh II, and at least one hard disk, along with appropriate AppleTalk personal network cables and connectors for each workstation. A minimum of 512K of memory is necessary for each workstation. AppleShare file servers may also be accessed by MS DOS-based systems connected to the AppleTalk network using the AppleTalk PC Card and software from third party vendors. It is then possible to interchange data between MS DOS and Macintosh computers over the AppleTalk network.

AppleShare is fully integrated into the Macintosh user interface so that using the file server is like using a local disk. All users on the network receive updated information at their workstations whenever a document or folder is created, deleted or moved.

The AppleShare file server is available at a cost of £595 from authorised Apple dealers from March 1987.

AppleTalk PC Card

Apple Computer UK has launched an add-in board for IBM PCs which gives them access to the Apple LaserWriter printer and allows them to share information on an AppleTalk network. This product represents a significant step towards smoother communications between Apple hardware and the MS DOS environment and is part of Apple Computer's policy to achieve greater connectivity between systems.

AppleTalk PC Card is a half-sized printed circuit board containing a microprocessor and AppleTalk protocols in its ROM. Software is also included which converts MS DOS-generated text into PostScript page description language which is used by the Apple LaserWriter. The card supports the conversion of several file formats, including WordStar, Lotus 1-2-3, MultiMate, Microsoft Word, Diablo 630, ASCII and PostScript.

"PostScript is fast becoming the de facto industry standard for laser printers," explains Richard Bradley, Product Manager, DeskTop Publishing at Apple Computer UK. "The AppleTalk PC Card will open up for users of MS DOS machines the opportunity to link into a PostScript-based desktop publishing system and give them the advantages of Macintosh-based networks."

Both Apple Computer and a range of third party hardware and software developers have recognised the user benefits to be gained from connectivity between Macintosh environments and MS DOS systems.

Users of the AppleTalk PC Card will need AppleTalk Personal Network cabling and connectors, and an Apple LaserWriter for printing. Apple's powerful yet cost effective AppleTalk network currently operates on a variety of cabling schemes, including AppleTalk Personal Network cabling, twisted pair telephone wires, Ethernet, PBX systems and optical fibres.

Chris Jones, Manager for DeskTop Communications said, "This development represents a foundation upon which Apple and third parties can create applications for business and higher education users to

integrate and enhance their MS DOS information."

Macintosh personal computer technology, characterised by ease of use, unique functionality and quality of graphics, features a high level of software consistency and close integration across applications. As a result, support and training are both simple and fast, and the widespread use of the Macintosh personal computer in business over the past year has been a testament to its increasing acceptance in office automation systems.

Jones says, "With one million Macintosh computers in business, education and consumer applications, the opening up of these systems to MS DOS users is an important advance."

AppleTalk PC Card is available from March 1987 from authorised Apple dealers for £395.

New Peripherals

Apple Computer UK has announced a range of peripheral products to complement the new Macintosh business computers, Macintosh SE and an open system, and the Macintosh II. High resolution large size monitors, hard disk drives, tape streamer, optional keyboards and RAM expansion kits are all part of Apple's spring 1987 product expansion.

"In addition to the powerful business Macintosh computers already available, we are now complementing the range of Macintosh CPUs with a family of peripheral products to offer a complete range of business solutions," says Keith Phillips, marketing director of Apple Computer UK Limited, "and a complementary range of peripheral products ensures breadth of functionality and flexibility within our systems. The Macintosh based solutions will meet the microcomputer needs of all levels of business and higher education in today's marketplace."

"The Macintosh family of CPUs, its peripherals and communications options, now offer a foundation for greater networking and multi-user options," says Phillips. "Third party developers are already working on further software and communications products to meet our users' growing needs."

Storage Devices

Hard disk devices include 20, 40 and 80 megabyte internal SCSI drives for the Macintosh II as well as 40 and 80 megabyte external drives for the Macintosh Plus, Macintosh SE and Macintosh II. A 40 megabyte tape streamer is also now offered as a backup storage system.

Monitors and Video Cards

Two high resolution monitors are now optionally available to Macintosh II users: a 12 inch monochrome and a 13 inch colour display.

A 1-4 bit video card is available for Macintosh II users, giving 16 colours or shades of grey. The 1-4 bit card can be combined with an optional 8 bit expansion kit to upgrade to 256 colours or shades of grey.

Controller Cards and 5.25 inch disk drive

Apple Computer is introducing a 5.25 inch disk drive and two controller cards for the Macintosh SE and the Macintosh II which will enable Macintosh users to access MS DOS data. These are expected to be available during the first half of 1987.

RAM Expansion Kits

A 2 megabyte RAM kit is available for both the Macintosh II, Macintosh SE and the Macintosh Plus with an additional 1 megabyte RAM expansion kit for the Macintosh II.

Keyboards

The Macintosh SE has an Apple standard 81-key keyboard. The Macintosh II can use either the 81-key or the 105-key Apple extended keyboard.

PMMU chip

A Page Memory Management Unit chip (68851) is an optional extra for the Macintosh II to provide multi-tasking and multi-user functions. It will be supported by the UNIX operating system currently being developed for the Macintosh II.



Press Release

UNIX

According to UniSoft (Berkeley, CA), the UNIX operating system that will be available for the new 68020-based Apple Macintosh II will combine features of two versions of UNIX with the Mac user interface. The new OS, called A/UX, is reportedly compatible with both UNIX System V, from AT&T, and UNIX BSD (Berkeley Software Distribution), from the Computer Systems Research Group at the University of California, Berkeley.

The company that developed the software, UniSoft, have stated that A/UX conforms to the System V Interface Definition and has passed the System V Verification Suite. As for BSD compatibility, the company said that A/UX contains more than 50 BSD utilities not in System V.

There are three ways of networking the new OS with other systems. UniSoft's B-Net allows A/UX to interact with the Defense Department's TCP/IP protocol based on Ethernet. UniSoft's Network Filing System (NFS), licensed from Sun Microsystems, allows transparent access to remote file systems. Lastly, the system's AppleTalk networking capability allows A/UX to interact with other Apple microcomputer systems.

Robert Ackerman Jr., president of UniSoft, stated that the new system will provide incentives for developers to write programs for UNIX. In the past, he said, UNIX applications developers had a small target market and no standard medium for distributing software. Also, the operating system itself is difficult for some users to master. The new system, with its Mac interface, should be easier to use and should provide a large market for applications developers.

UniSoft also said that it will soon be selling to end users a series of compilers for the A/UX operating system. These include compilers for C, Fortran 77, and Pascal. The company claims that code produced by the compilers is 30 percent smaller and two to four times faster than that of other compilers. The compilers, written by Green Hills Software, will cost \$700 each and will be available when Apple ships the A/UX system.

No information on the price of A/UX is available as yet.

PageMaker

Aldus Corporation, developer of PageMaker desktop publishing software, has reaffirmed its commitment to the Apple Macintosh and to the concept of an 'open architecture' for desktop publishing.

Aldus President Paul Brainerd, who has pioneered the desktop publishing field with Apple since 1985 said, "We're pleased to support the new products from Apple and to continue our work with third party software developers in the graphically rich environment of the Macintosh. The 2.0 version of Pagemaker will take advantage of the improved performance of the macintosh II and SE, as well as the network capabilities of AppleShare. The new open architecture will also expand the potential for future developments in large screen monitors, on screen colour and grey scaling."

"In addition," Brainerd said, "we've opened the architecture of our own PageMaker product to make it easier for third party software developers to produce file formats that will be compatible with PageMaker. Since desktop publishing is, by definition, an integrating activity, we want to make it as easy as possible for other text and graphics programs to work with Pagemaker."

Three products supporting Pagemaker version 2.0 are WriteNow, a word processor from T/Maker Software; PictureBase, an art management desk accessory from Symmetry Corporation; and Glue, a standard graphic interchange from Solutions, Inc. PictureBase speeds the placement of graphics files in PageMaker by allowing users to find and import graphics files without going through the standard Macintosh File menu. Glue is a standard file format that works with the PageMaker 'Place' command to allow users to import files from any Macintosh application that supports Glue, regardless of whether it supports PageMaker directly.

Aldus has also worked extensively with Microsoft to offer a new export capability between PageMaker 2.0 and Word 3.0. The new feature will allow Pagemaker users to save text files created or modified in PageMaker as Word 3.0 word processing files, thus giving them the option of updating their original text files or saving their Pagemaker files in a

word processing format.

The new version of PageMaker will also enjoy substantial file compatibility with the recently released PC version of PageMaker. Macintosh users will be able to bring PC PageMaker files into the Macintosh and work on them directly. In addition, the new Macintosh version will include both built-in and installable word processing import filters to allow Macintosh users to directly place PC-based word processing documents in their PageMaker publications.

PageMaker has been so successful in the UK, the Republic of Ireland and Europe that Aldus Corporation last year set up a new UK joint venture, Aldus UK Ltd., to handle sales, support and training. The other partners in the venture are brothers Derek and Michael Gray of Galashiels-based McQueen Ltd.

Omnis Upgrade

Blyth Software has dropped copy protection on versions of Omnis 3 Plus for the Macintosh. All registered users and Omnis developers can upgrade to Omnis 3 Plus version 3.24 free of charge by returning their program disks.

Cricket Draw

A new version of Cricket Draw which takes full advantages of the advanced features of the Macintosh II has been announced. Although Cricket Software Inc's original Cricket Draw and Cricket Graph will work in colour on the Mac II, the new version of Cricket Draw has been developed specifically to take advantage of the features of the new computer. For example, the new version utilises the Mac II's mathematics coprocessor tremendously increasing the speed of programs. Also, to exploit the Mac II's colour capabilities, users of Cricket Draw, and Graph, will be able to choose from a palette of at least 256 colours.

Cricket Software is distributed in the UK by Heyden & Son Ltd. Suggested retail price for the new version of Cricket Graph is £175 + VAT; Cricket Draw is £295.00 + VAT.

XPress

XPress by Quark is available for the new Macintosh product range; "a new era in Desktop Publishing has dawned," announced Heyden & Son.

XPress is a professional publishing

system integrating advanced word processing, precision typesetting and flexible layout capabilities - all features taking full advantage of the mac's colour capabilities. "XPress eliminates limitations of earlier desktop publishing programs by incorporating colour and precision," claims Elliot Kahan, Heyden's software products manager. "Never before has there been such a powerful facility for desktop publishers."

XPress is designed to meet the demands of complex and sophisticated applications while retaining the intuitive Macintosh command format. The program allows Mac users to implement colour as part of their publications. XPress displays on screen full colour documents with the Mac II. When used with the LaserWriter, XPress produces full colour separations directly, and prints spot colour when using the ImageWriter II. Small publishers can now produce colour documents with the same precision in layout and typesetting as can be produced by large service printers.

XPress has a powerful integrated word processor which eliminates the need for word processors such as Microsoft Word or MacWrite. Also, because XPress documents are disk based, technical publications of virtually unlimited length can be prepared. The word processor includes a spelling checker with an 80,000 word dictionary with an additional word count facility, and can also read documents prepared by other word processors for the Macintosh.

Advanced features of XPress include: spelling checker and automatic hyphenation in the integrated word processor, automatic kerning to 0.01 of an cm space, leading - automatic, absolute and relative - to 0.001 of a point for precision typesetting, and automatic run-rounds of either regular or complex shapes. Because XPress instantly reflows text when the layout changes, the production of multi-article publications or small newspapers is significantly simplified.

XPress is distributed in the UK by Heyden & Son Ltd at the suggested retail price of £695.00 + VAT. For further information contact Elliot Kahan on 01-203 5171.

MacScan

MacScan is a high-speed but low-cost scanner interface for the Macintosh Plus computer. An interface for the Canon

IX12 tabletop scanner, MacScan can capture line art and halftone images. A Macintosh application program available with the interface allows the capture, editing, saving and printing of scanned images, and supports major desktop publishing programs' image save formats, including MacPaint, MacWrite, PageMaker, PICT and SuperPaint.

Features include: high speed scanning through SCSI connection; multiple scan resolutions: 300, 200, 150 and 75 dots per inch; easy editing of scanned images; LaserWriter printing direct from MacScan software; line art and halftone modes; adjustable brightness control; selectable scan area; compact desktop size.


MacScan is available from Heyden & Son and will retail at £1895.00 + VAT.

Memorandum

It is now possible to tag memos electronically onto your Mac spreadsheets using Memorandum, a new introduction to the UK market. Whether spreadsheet, word processor or database files, Memorandum enables users to make reminder notes containing text or graphics, detailing a selected cell entry, word or phrase. The original document is neither modified or disturbed as notes are stored in a separate file. Memos do not appear on the document until commanded.

All notes can be shown at once or selected individually. If you 'enable' a note, then it will appear automatically when the document item is 'clicked' on by the mouse. There are also 'time' notes which are memos attached to a point in time so that they may be used as scheduling or appointment aids. There are 'unattached' notes, not linked to specific features, which can be used to store up to 32,000 characters of text, or one picture, for future use.

Main features of Memorandum are: Note attachment by a simple menu option or a command key; the possibility of cut, copy and paste between applications and notes; note windows which are movable and resizable; a choice of type sizes, fonts and styles for each note; compatibility with Apple's LaserWriter and ImageWriter; compatibility with all leading spreadsheet programs.

Memorandum requires a 512K Macintosh or a Macintosh Plus and supports hard disk drives. It is available from Heyden & Son at a suggested retail price of £99.00 + VAT. 

LET'S RIP OPEN THE MAC

Part 2

by Cliff Wootton

In the System File

In the last issue, we discussed the development of the Res Ripper program. Here, we talk about the results of what I found during the development and implementation of the program.

The System File I worked on principally was lifted from the Apple UK released Macintosh Build disk. It was dated 08-Apr-85 and is referred to as version 2.00. So far, six different versions of the System File have turned up in my software library. I now have later revisions of the software and it is public knowledge that there are others available to software developers.

- 0.97 14-Jan-84
Found on Dollars & Sense demo disk
- 1.01 20-Apr-84
Found on the MS BASIC 2.00 disk
- 1.01 24-Apr-84
Found on original May 84 MacWrite
- 2.00 08-Apr-85
Found on the May 85 software update
- 3.00 04-Jan-86
Found on the May 86 software update
- 3.1.1 Rumoured available in USA
- 3.2 02-Jun-86
Supplied by Apple (UK) July 86

Since at present I only have access to the humble 128K machine, I am still using version 2.00 of the System File. The ResRipper program described in the first part of this article will handle revisions up to this release but until I do the upgrade, I cannot easily accommodate version 3.xx. This is because ResRipper will need to have some additional modules created and there is not really enough disk space. Since obtaining a version 3.2 of the System File, I have had a brief look at the resources with Redit to see what (if any) differences there are.

Note that there are two releases of the System File flagged as version 1.01. This is misleading since the date of issue is certainly different and the resource content is radically altered. They are clearly not derivative of one another since the resources are completely resequenced from one version to the next. This indicates that the resource fork was

completely rebuilt.

If you wish to rip apart the System file yourself, here are some guidelines on how to do it. The System File to be analysed is prepared by making a copy onto a bootable work disk. Also on this disk should be placed a copy of the Finder, the Font/Desk Accessory Mover and the Fedit utility.

After booting the disk, run the Font/Desk Accessory Mover to remove all extra fonts and desk accessories. The System File, I was working on had the Compact accessory installed as it is the smallest desk accessory I could find. It would be preferable to leave all the desk accessories out but the Finder has problems if there are no desk accessories installed.

Now that all the extra fonts and accessories have been removed, make a copy of the System File with the Finder duplicate facility. This gives us a file that we can patch with the Fedit program without damaging the System File that is currently booted and in use. Using the Fedit program, we can open the duplicate copy and swap the data and resource forks over.

Having swapped the forks, we can use Res Ripper to open the resource fork and extract the resource map and info and disassemble it. The forks need to be swapped because MicroSoft BASIC is unable to open and read the resource fork directly. (Note that a new version 3.00 of MicroSoft BASIC may allow resources to be loaded directly, in which case the next revision of Res Ripper will be built accordingly.)

The following information was found:- The data fork of System File (version 2.00) contained 5120 bytes of what looks predominately like machine code. The size of this data fork changes from one release to another and at release 3.2 is only 1024 bytes long. I can find no documentation to describe what this machine code might be but there are two possibilities:-

- Consistent with Apple II ProDOS practice, it might be part of the second stage boot.

- Alternatively, it might be an image of the bootstrap loader code to be used when creating new disks. This would need to be transferred with the System File since by copying the System File from one disk to another, you will make the target disk bootable. I think this is unlikely as freshly formatted disks have the boot blocks copied from the current boot volume's boot blocks directly.

The System File (ver 2.00) resource fork contained 38665 bytes of resources. Based on the investigation of this System File and the others in my library, the resource structure is described below. Each description starts with the resource type and id. It is followed on the heading line by the size and attributes in brackets. The attributes are as follows:-

- Loaded into the application-heap unless flagged for loading into the system-heap.

- Unpurgeable once loaded until made purgeable by the application.

- Unlocked unless flagged as being locked.

- No system resources are flagged as load when application is launched because the System File is not an application that can be launched from the Finder.

- No resources are protected in the System File.

The following resources were discovered in the System File:-

ALRT -3994 (12 bytes, purgeable)

This is the alert template definition for when the system is requested to perform an operation on an unmounted volume. It will present the message 'Can't find that disk'. to the operator. The button definitions etc are stored in **DITL -3994**. The resource editors flag this item as being owned by RSV1 3 which is currently an undocumented and non-existent resource.

ALRT-3995 (12 bytes, purgeable)

This is the alert template definition for when the message 'A system error has occurred, please try again' is presented. The button definitions etc are stored in **DITL -3995**. This is also an owned resource.

ALRT -3996 (12 bytes, purgeable)

This is the alert template definition for when you are likely to overwrite a file. The message 'Replace existing ...' will be presented to the operator. The button definitions etc are stored in **DITL -3996**. This is also an owned resource.

ALRT -3997 (12 bytes, purgeable)

This is the alert template definition for when you are attempting to write to a disk that is write locked. The message 'Disk is locked' will be presented to the operator. The button definitions etc are stored in **DITL -3997**. This is also an owned resource.

BNDL 0 (40 bytes)

This bundle resource contains reference information for use by the Finder. From point of view of the Res Ripper program, one item stored here is the resource type and id of the System File's version data. The version data is stored in a resource whose type is the same as the creator code whilst the id is usually 0. **BNDL 0** in this case refers version data requests to the **MACS 0** resource. The **MACS** reference also defines the creator code which when associated with the file's type defines which **FREF** is used to display a desktop **ICON**.

Following the **MACS** reference is a local to global reference for the desktop icon. In this case it defines **ICN# 3** as being the icon and its mask.

Finally there are four local to global **FREF** references for the System, Finder, Imagewriter and Clipboard files.

All of this information is used by the Finder when the System File is copied to another desktop.

If you modify the **FREF** to refer to a different local **ICN#** id and add that **ICN#** id to the **BNDL** then you could quite easily replace the system icon with another specialised icon for the Clipboard for example.

CACH 1 (0 bytes)

This resource was introduced at release 3.0. From the resource type, it is clearly related to the disk cache implemented on the Macintosh Plus. The size is set at 2662 bytes at release 3.2 and contains what appears to be the standard 68000 machine code type of data.

CDEF 0 (666 bytes, purgeable)

This is a control definition procedure used by the control manager. These resources are 68000 machine code fragments that are called in when needed by the dialog process. This resource has suddenly grown to 804 bytes at release

3.0. This is probably related to revised control facilities provided on the Macintosh Plus. Note that according to Apple, the version 3.2 **CDEF 0** can be used with System version 2.0.

CDEF 1 (1268 bytes, purgeable)

This is another control definition procedure used by the control manager. This resource was modified after release 0.97 from a previous size of 1262 bytes.

CURS 1 (68 bytes)

This cursor resource defines the shape of the text editing cursor. The text cursor is often referred to as the I beam. Sometimes this cursor is modified as in the case of MacPaint where a small bar is placed to indicate the baseline of the text. This resource lives in the 128K ROM on a Mac Plus and is not therefore loaded from disk.

CURS 2 (68 bytes)

This cursor resource defines the small cross hair cursor that is used when working on graphical information. This resource lives in the 128K ROM on a Mac Plus and is not therefore loaded from disk.

CURS 3 (68 bytes)

This cursor resource defines a large cross shaped cursor that is used when working with cellular or structured documents such as spreadsheets. This resource lives in the 128K ROM on a Mac Plus and is not therefore loaded from disk.

CURS 4 (68 bytes)

This cursor resource defines the watch cursor which is displayed when some operation the Macintosh is performing is likely to take some time. This resource lives in the 128K ROM on a Mac Plus and is not therefore loaded from disk.

DITL -3994 (58 bytes, purgeable)

This is the alert item list for the 'Can't find that disk' alert message. It is used in the alert template **ALRT -3994**. It contains various button definitions etc as well as the machine code routine to be executed when the buttons are pressed by the operator. The size of all the **DITL** resources has remained fixed from version 0.97 through to 2.0. At version 3.0, the size of this resource has increased to 80 bytes indicating that some additional items have been introduced, related to the new **HFS** directories. This is an owned resource although the owner does not appear to exist within the system file.

DITL -3995 (78 bytes, purgeable)

This is the alert item list for the 'A system error happened, please try

again' alert message. It is used in the alert template **ALRT -3995**. It contains various button definitions etc as well as the machine code routine to be executed when the buttons are pressed by the operator. This resource has shrunk to 74 bytes at version 3.0. This is also an owned resource.

DITL -3996 (74 bytes, purgeable)

This is the alert item list for the 'Replace existing ...' alert message. It is used in the alert template **ALRT -3996**. It contains various button definitions etc as well as the machine code routine to be executed when the buttons are pressed by the operator. The size of this resource is unchanged at version 3.0. The resource is owned.

DITL -3997 (52 bytes, purgeable)

This is the alert item list for the 'Disk is locked' alert message. It is used in the alert template **ALRT -3997**. It contains various button definitions etc as well as the machine code routine to be executed when the buttons are pressed by the operator. This resource has shrunk to 48 bytes at version 3.0. The resource is owned by another as yet unidentified resource.

DITL -3999 (144 bytes, purgeable)

This is the dialog item list for the 'Save/save as' dialog process. It is used in the dialog template **ALRT -3999**. It contains various button definitions etc as well as the machine code routine to be executed when the buttons are pressed by the operator. This resource is unchanged at version 3.0. The resource is owned.

DITL -4000 (168 bytes, purgeable)

This is the dialog item list for the 'Open file' dialog process. It is used in the dialog template **ALRT -4000**. It contains various button definitions etc as well as the machine code routine to be executed when the buttons are pressed by the operator. This resource has grown to 170 bytes at version 3.0. The resource is owned.

DITL -6047 (422 bytes, purgeable)

This is the dialog item list for the 'Disk initialiser' dialog process. It is used in the dialog template **ALRT -6047**. It contains various button definitions etc as well as the machine code routine to be executed when the buttons are pressed by the operator. The id value indicates that the resource is owned by **PACK 3**. Package 3 is the standard file package. This resource has grown to 586 bytes at version 3.0. The changes in this case are probably related

to the 800K disk density modifications that require additional user interaction to determine the disk format being requested.

DLOG -3999 (23 bytes, purgeable)

This is the dialog template definition for when you are attempting to save a file under a new name. The 'Save as' dialog will be presented to the operator to fill in the new name. The button definitions etc are stored in **DITL -3999**. This resource has shrunk to 21 bytes at version 3.0. The resource is owned.

DLOG -4000 (23 bytes, purgeable)

This is the dialog template definition for when you are attempting to open a new file. The 'Open file' dialog will be presented to the operator to fill in the new name. The button definitions etc are stored in **DITL -4000**. This resource has shrunk to 21 bytes at version 3.0. The resource is owned.

DLOG -6047 (23 bytes, purgeable)

This is the dialog template definition for when you are attempting to initialise a new disk. The 'Initialise' dialog will be presented to the operator to confirm the request. The button definitions etc are stored in **DITL -6047**. The id of this resource indicates that it is owned by **PACK 3** which is the standard file package.

DRV 2 .Print (290 bytes)

This is the printer driver which is currently installed. When drivers are installed they are copied in from other resource forks, in this case from the Imagewriter printer driver resource file. Several other resources are copied across at the same time. Most of them will have resource id values that indicate that they are owned by **DRV 2**. The size of this resource will change depending on the printer driver presently installed. This resource lives in the 128K ROM on a Mac Plus and is not therefore loaded from disk unless it needs to be overridden.

DRV 9 .MPP (0 bytes)

This resource was introduced at release 3.0. This is AppleTalk related and might be present when the printer is a LaserWriter for example. The resource appears to be empty at this release. The size fills out to 3280 bytes at release 3.2. This resource lives in the 128K ROM on a Mac Plus and is not therefore loaded from disk.

DRV 10 .ATP (2394 bytes)

This resource was introduced at release 3.0. This is also AppleTalk related. This resource lives in the 128K ROM on a Mac Plus and is not therefore loaded from disk.

DRV 12 Compact (24 bytes, purgeable)

This is the smallest desk accessory that I could find. Its size is barely more than the jump table placed at the start of every **DRV** resource. It does not own any resources and its only use is to compact the memory when it gets a little full.

DSAT 0 (482 bytes, system-heap, locked)

This default startup alert table resource contains an minimal version of the error message alert handler. It is used at system startup time to put the welcome box on the screen. It contains a few messages to inform you that Macsbug is installed or that the boot code cannot find the Finder file. In addition, this is where the Macintosh logo lives in the form of an icon. The structure of this resource is like a miniature resource fork itself in that there are nearly 20 embedded resources of different types. Some of the resources are 68000 machine code which handles the button actions in case of an error. The reason for operating in this manner is that since the code is essentially stand-alone, not much of the system needs to be functioning before intelligent and helpful messages can be given to the operator.

FKEY 3 (312 bytes, purgeable)

This is the 68000 machine code routine that is executed when you press **control-shift-3**. It generates the MacPaint screen image dumps of the current display screen. Note that there is no **FKEY 1** or **FKEY 2**, these are hard coded in ROM to force disk ejections. The size of this resource was increased after revision 0.97.

FKEY 4 (102 bytes, purgeable)

This is the 68000 machine code routine that is executed when you press **control-shift-4**. It prints the contents of the current screen. It will detect whether the caps lock key is down and if it is only the current window will be printed. The size of this resource was 94 bytes in releases earlier than 2.0. However, at release 3.0, the size has returned to 94 bytes. It is possible then that the old code has been restored on the latest release.

FMTR -6078 (1378 bytes)

This resource was introduced at release 3.0. It appears to be related to the disk initialisation package and from the resource type, one can deduce that it is a formatter. Since there are two **FMTR** resources, the larger is likely to be related

to the 800K double sided disk drive.

FMTR -6079 (806 bytes)

This resource was introduced at release 3.0. It appears to be related to the disk initialisation package and from the resource type, one can deduce that it is a formatter. Since there are two **FMTR** resources, the smaller is likely to be related to the 400K single sided disk drive.

FOND 0 Chicago (60 bytes)

This resource was introduced at release 3.0. It is provided for the new font manager to allow significantly greater numbers of unique font ids to be created. It is a definition of the attributes of the font and includes information likely to be of use to a LaserWriter application. The id is related precisely to the font id rather than some strange bit shifted permutation of it. Appropriately numbered **FOND** resources are created automatically when fonts are moved by the Font and Desk Accessory mover supplied as part of the release 3.0 upgrade.

FOND 3 Geneva (60 bytes)

This resource was introduced at release 3.0.

FOND 4 Monaco (60 bytes)

This resource was introduced at release 3.0.

FONT 0 Chicago (0 bytes)

This font resource is the base resource for the Chicago font. The 0 point size version of any font is simply used to hold the font name. This resource lives in the 128K ROM on a Mac Plus and is not therefore loaded from disk.

FONT 12 (2940 bytes, system-heap)

This font resource is the 12 point Chicago font bit image. This resource lives in the 128K ROM on a Mac Plus and is not therefore loaded from disk.

FONT 256 New York (0 bytes)

This font resource is the base resource for the New York font. It was supplied as one of the system reserved fonts on releases prior to version 1.0 and was removed from the **FRSV** thereafter.

FONT 268 (2734 bytes)

This font resource is the 12 point New York font. It was supplied as one of the system reserved fonts on releases prior to version 1.0 and was removed from the **FRSV** thereafter.

FONT 384 Geneva (0 bytes)

This font resource is the base resource for the Geneva font.

FONT 393 (2152 bytes, purgeable)

This font resource is the 9 point Geneva font bit image.

FONT 396 (2734 bytes, purgeable)

This font resource is the 12 point Geneva font bit image. It was added to the reserved fonts list at release 1.0.

FONT 512 Monaco (0 bytes)

This font resource is the base resource for the Monaco font.

FONT 521 (2026 bytes, purgeable)

This font resource is the 9 point Monaco font bit image. The size has previously been released as 2004 bytes. The font was revised to 2026 bytes for the May 1984 release of the System File.

FREF 0 (13 bytes)

File reference 0 associates the System File with **ICN# 3**. In addition, any file of type **ZSYS** will also use this icon.

FREF 1 (13 bytes)

File reference 1 associates the Finder file with **ICN#3**. In addition, any file of type **FNDR** will also use this icon.

FREF 2 (18 bytes)

File reference 2 associates the Imagewriter file with **ICN#3**. In addition, any file of type **PRES** will also use this icon.

FREF 3 (21 bytes)

File reference 3 associates the Clipboard file with **ICN#3**. In addition, any file of type **CLIP** will also use this icon.

FRSV 1 (10 bytes)

The **FRSV** resource defines the fonts that are reserved for system use. By modifying the contents of this resource, you can reserve additional fonts or remove one or more of the ones currently defined. You should always leave one Chicago and one Geneva font intact however. The Chicago is used for system operations such as menu bars etc whilst the Geneva is used by applications as the default font. At revision 2.0 the **FRSV** flag reserves the following reserved fonts:-

- **FONT 12** Chicago 12
- **FONT 521** Monaco 9
- **FONT 393** Geneva 9
- **FONT 396** Geneva 12

By definition the Chicago 0, Geneva 0 and Monaco 0 font sizes must also be preserved as they hold the font name. In releases of the system file up to and including 0.97 the 12 point New York font was reserved instead of the 12 point Geneva. This explains why early versions of the puzzle do not work correctly when all the New York fonts are removed.

ICN# 3 (256 bytes)

This icon list defines the icon and mask for the desktop icon used to represent system files. Its local id is 3

but it may be referred to by another id (mapped by the **BNDL** resource) when moved to the desktop. Once copied to the desktop all **BNDL** information can be removed as it will only be required if the desktop needs to be reconstructed or if the file needs to be moved to another desktop (disk).

ICON 0 (128 bytes, purgeable)

This icon resource defines the exclamation mark icon for alert box item lists.

ICON 1 (128 bytes, purgeable)

This icon resource defines the asterisk icon for alert box item lists.

ICON 2 (128 bytes, purgeable)

This icon resource defines the question mark icon for alert box item lists.

ICON -6047 (128 bytes, purgeable)

This icon resource defines the disk icon that is used on the desktop. Its id indicates that it is owned by the **PACK 3** resource. Package 3 is the standard file handler.

INIT 0 (656 bytes, system-heap, locked)

This initialisation resource contains some 68000 machine code used to initialise the keyboard layout. Embedded within it is the keyboard definition table which describes the codes generated by each key in 6 different shift states. There are 6 lists of key codes each 53 entries long as follows:-

- unshifted
- shifted
- caps locked
- option unshifted
- option shifted
- option caps locked

By patching this table, your keyboard can generate any single key code you choose. It is therefore feasible to remove dangerous keystroke combinations from a terminal emulator package or to add special key codes when required.

Within this resource, there are several other tables of values, most notably the vowel symbols and the diacritical marks. There are also tables that define the two key accented character workings. These tables comprise a list of accents followed by the normal keystroke and thirdly the resulting character. This resource has changed in size several times in the past. At release 3.0, the size has increased dramatically (to 992 bytes), probably to account for the revised keyboard layout supplied with the Macintosh Plus. The addresses of the data are probably not the same now. Again the size increases to

1012 bytes at release 3.2.

INIT 1 (100 bytes, system-heap, locked)

This initialisation resource, although not as complex as **INIT 0** operates in much the same way but provides support for the numeric keypad. In this case there are only two shift states and as before, the resource is mostly machine code.

According to the Inside Macintosh book, this resource was previously used as a programmer alert definition. That is certainly no longer true. In any case, the format of these keyboard routines was hinted at and it was indicated that they would be documented at a later date.

Since the numeric keypad is the same regardless of the country code currently defined, this resource will probably not be affected by the Localiser. The resource has nearly doubled in size at release 3.0, again related to the revised keyboard facilities.

INIT 2 (768 bytes, system-heap, locked)

This initialisation resource supports the error message alert table. It describes the way that the error messages are presented and the buttons that are put up. It also contains some machine code that handles the operation of the buttons when an error message appears. Patch this resource (if you dare) to hook in to the error handler to gain control after a system failure.

Again according to the Inside Macintosh book, this resource is supposed to be of the same format as the **DSAT 0** resource. It was similar but has a few bytes of preamble at the start which requires a special disassembler routine.

When opened up, you will find that this is where the bomb icon lives as well as the disk swap icon. The size was reduced from 870 bytes after release 0.97 and has remained the same since.

Due to space limitations in this issue of Apple2000, this article will be continued next time. In the next and final part, I shall cover the rest of the resource descriptions and outline some ways in which you can apply your new found knowledge of the internals of the System File.

**MEMBERS ARE REMINDED
THAT THEY MAY SUBMIT
ARTICLES, TIPS OR LETTERS
ON ANY APPLE RELATED
SUBJECT**

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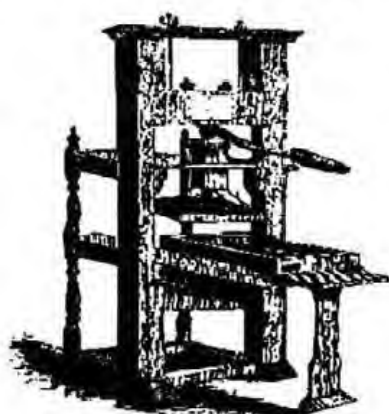
U P O S L A M
S T N A B
I S G C O
N C U Y I L

ITC G A R A M O N D

D I G A U T
O P E K R O
B T E S
E S H

Adobe created the Postscript page description language, so you may conclude that their downloadable fonts are the best available. You can be certain that they follow all the Postscript rules, which may not be the case for other third party font developers. As such, Adobe fonts are accessible by other programs, such as JustText - Bill Bates allows you to use the Adobe fonts within JustText programs, but this is not true of other downloadable fonts which do not follow all the rules.

The only criticism I had was that the font could only be downloaded to one printer - so, what happens if you upgrade your LaserWriter to a Plus? or if it develops a fault? or if you have a LaserQuestion and a Linotronic? These questions have all been answered by Adobe, now.



Provided you have registered your purchase, you can get a replacement disk to solve the first two problems. Adobe have solved the last problem by introducing an alternative version which can be initialised for a maximum of five printers, the cost being double that of the single-printer version.

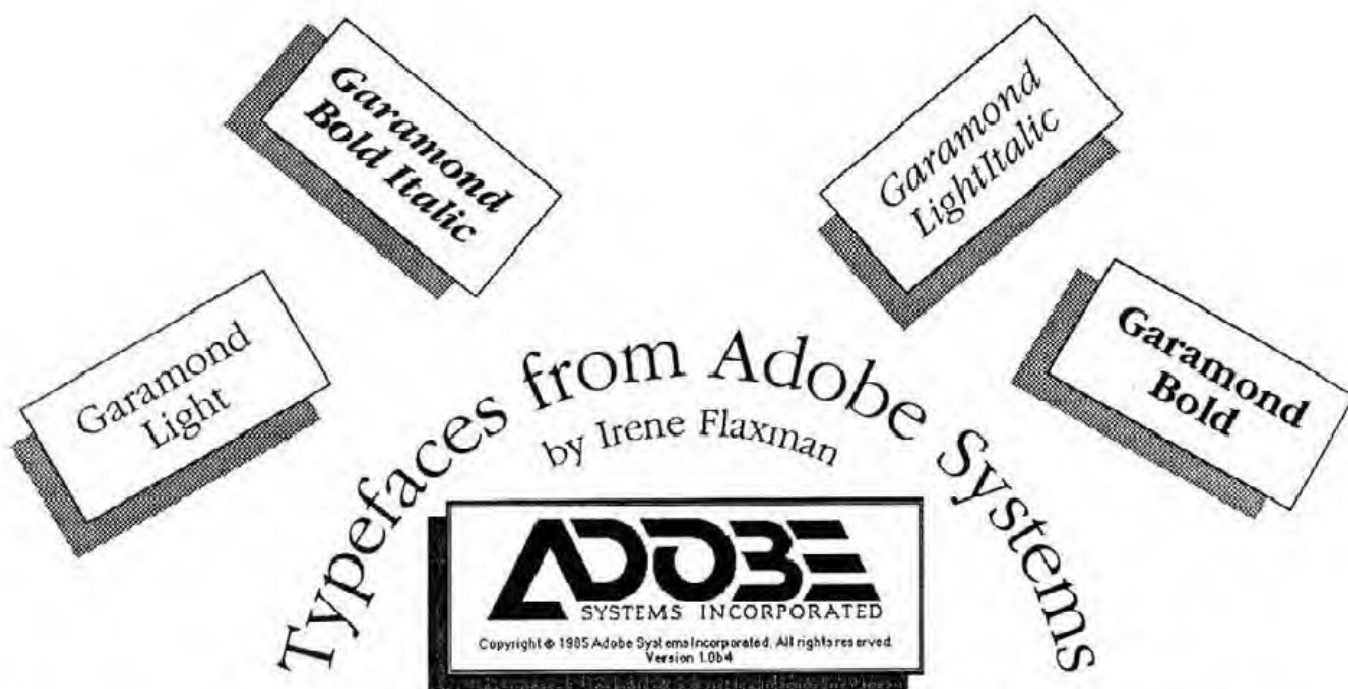
Each package from the Adobe Type Library contains one or two screen fonts disks (containing the characters you see in your Macintosh applications), and one or two font initialiser disks (containing printer fonts for downloading to your postscript printer). Both sets include four styles of the font - plain, italic, bold, and bold italic.

The screen fonts can readily be copied, so that they can be used on many different machines. This is ideal for a situation such as we have for the magazine production, where sub-editors work in isolation without access to the printer. The fact that they can use the screen fonts when preparing their contributions means that they can see an accurate representation of how the output will appear when printed. To use the screen fonts, you simply use the Font/DA Mover to install them in your system folder, as usual. The usual considerations also apply when installing fonts in your system - you can install several different point sizes (as well as styles), but they all take up space, so you have to balance your

requirements with the available space.

When typing in text, the screen image will be more accurate and legible if you are using a size of font which has been installed in your system rather than one which has not. In the latter case, the screen image will be created by reference to the font information available, scaling to size as necessary. If you have installed all four styles of font, each will appear as a separate entry on the font menu. Selecting the desired style from the font menu, rather than by using the style menu, again improves the screen representation of your text so that this will more accurately reflect the printed output. A common complaint of LaserWriter users is that the screen does not give a true image of the printed output, but this effect can be reduced if you have the correct size and style of font installed in your system.

The printer fonts must be initialised for your printer before they can be used. This is the critical stage - once initialised for a specific printer, they cannot be used on any other printers (unless you have the five-printer version, of course!). Should you try to use the font with a different printer, the attempt will fail and an error message will be displayed on screen. All four styles must be individually initialised for the printer.



Having initialised your fonts, you may download them to your printer manually or automatically. Manual downloading involves a simple process, using a font downloader (provided on the font initialiser disk). Provided that the font has been initialised for the particular printer you are downloading to, you simply select 'download font', confirm that you 'really want to do this', and the font will be downloaded. The font will then remain resident in the printer until it is re-initialised. Automatic downloading occurs whenever you use the font within an application, and then give the 'print' instruction without having manually downloaded the font. Automatic downloading is only temporary, the font will be deleted from the printer's memory on completion of the document.

Typically, you can download 2 - 6 fonts to your printer, in addition to those already resident in ROM. The number varies, as each font is individual and some will require more memory than others. The Garamond is the largest, and you will not normally be able to download all four styles simultaneously. This page has been set in JustText, which will allow me to download all four styles.

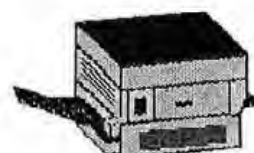
Adobe are obviously committed to developing postscript, and they promise a regular stream of new laser fonts. In January, we visited

ABCDEFGHIJKLM
 NOPQRSTUVWXYZ
 abcdefghijklm
 nopqrstuvwxyz

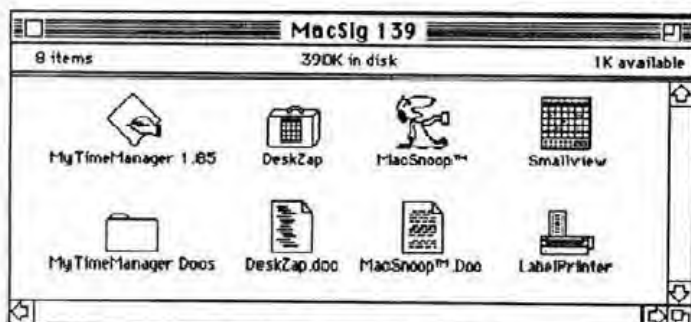
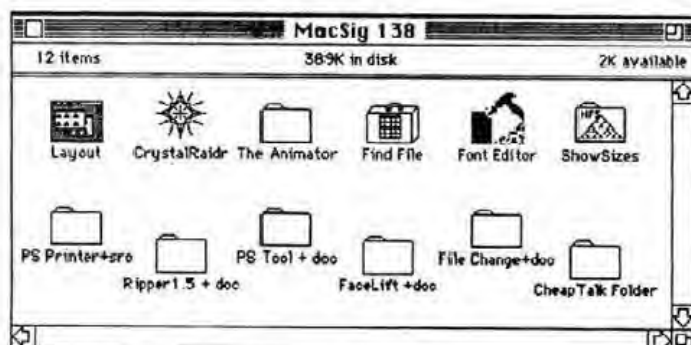
As we reported in the February issue, Adobe are launching their new program, Adobe Illustrator at the MacWorld Expo in Rotterdam (April 22nd-24th). This is a world-beater of a program - just wait until you see it!

them at Palo Alto and were given a tour of the quality control & despatch department. They have a neat organisation there, and are strong on controls. We complained about the copy protection, and they agreed that this makes their life more difficult, too - they are considering the abandonment of copy protection, but this is a big decision and will not be taken lightly. We shall be interested to see what their decision will be!

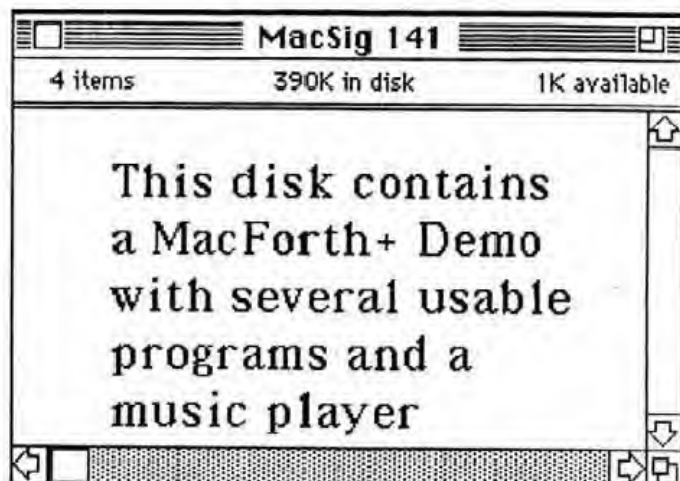
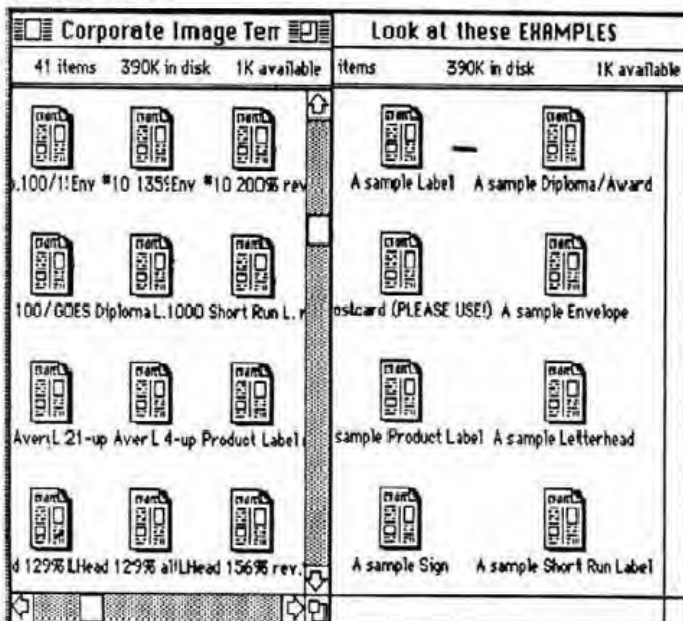
Their European distributors are: McQueen, Elliot House, 8-10 Hillside Crescent, Edinburgh EH7 5EA. So any problems can be dealt with locally - this must be welcome news to anyone who has tried to get support direct from the States. Prices vary, depending on the number of typefaces on the disks, and on whether you choose the one-printer or five-printer version. Most cost £170 for the one-printer (range £135 to £340), or £375 for the five-printer version (range £295 to £750).



New Library Disks



Disk 140 Corporate Image Templates (PageMaker)



MacSig 142		
Tech Notes 00-44		
Name	Size	Kind
TN 01	5K	MacWrite
TN 03	5K	MacWrite
TN 04	4K	MacWrite
TN 05	4K	MacWrite
TN 10	17K	MacWrite
TN 11	14K	MacWrite
TN 12	16K	MacWrite
TN 13	5K	MacWrite

MacSig 143		
Tech Notes 45-94		
Name	Size	Kind
TN51 PurgeMem	1K	MacWrite
TN52 Launch	7K	MacWrite
TN53 MoreMasters	8K	MacWrite
TN54 ResSize	5K	MacWrite
TN55 Drawing Icons	19K	MacWrite
TN56 Break/CTS	5K	MacWrite
TN57 Mac+	62K	MacWrite
TN58 IUStrComp	5K	MacWrite
TN59 Clip/Draw	4K	MacWrite
TN60 largeChars	3K	MacWrite
TN61 GetItemStyle	5K	MacWrite
TN62 ResHdr	3K	MacWrite
TN63 WriteResourcePatch	12K	MacWrite
TN64 IAZNotify	7K	MacWrite
TN65 Mac+ Pinouts	12K	MacWrite
TN77 HFS Ruminations	18K	MacWrite

A review by Irene Flaxman



Almost all of us will find a need for clip-art at some stage in our Mac development - even if you are a really talented artist, there may come a day when you simply don't have the time to create your own graphics. The MacMemories series of images for the Macintosh are a little different from other clip-art libraries you may have seen - as you can tell by looking at the examples shown on this page. Thunderscanned images from old books, magazines, etc. form the basis for the pictures presented on these disks. Obviously, there is a fair amount of work involved in transforming the raw scanned image into a piece of graphics which is good enough to be offered to the general public, and this work is undertaken by a small group of friendly people who are collectively known as ImageWorld, Inc.

Their original catalogue of disks is just thirteen strong. Each disk contains pictures related to a main theme - such as Art Nouveau, Memory Lane, Wild Wild West. These have now been sup-

plemented by a further five disks of new graphics, and more are to come.

I felt that the original disks were excellent - certainly of a higher standard than other clip-art I had seen. However, I have to admit that I think the later offerings seem even better. You can now choose your format, too - MacPaint or PictureBase formats are both available.

We know of no UK distributor, but they can be obtained directly from the publishers at \$39.99 each, or \$399.99 for the thirteen disk set (plus P+P).

ImageWorld, Inc., P.O. Box 10415, Eugene, OR 97440, U.S.A.

It might be worth giving MacSerious a call?



Rumour has it, that Apple (Cupertino) Rare considering expansion onto some land which is in Indian territory. I wonder when the peace talks start?



Desktop publishing - The capability to use a personal computer to create documents incorporating different type styles, sizes and graphics - is a market to which Apple is intensely committed.

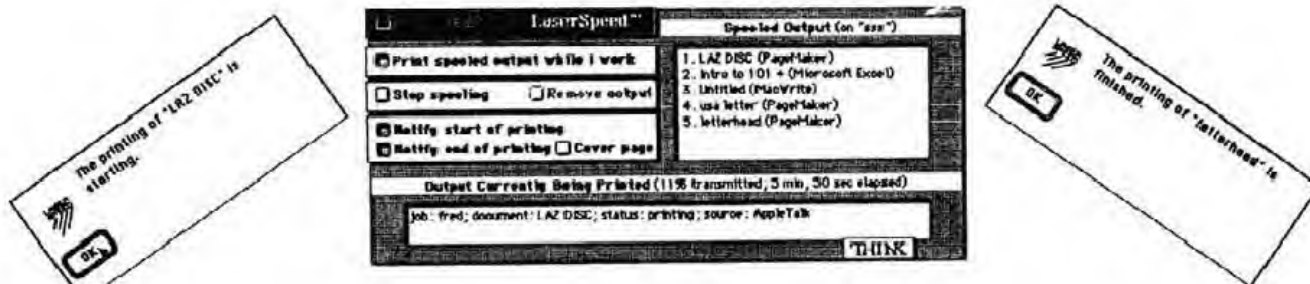
John Sculley, Apple Computer
in InfoWorld Nov 18, 1985

We first came across the MacMemories disks, last year. We 'phoned the States, and ordered the thirteen-disk set directly from ImageWorld, Inc. which was their "first TransAtlantic order" (life's much easier with a credit card!). We made sure that we went to say "Hello" at the MacWorld Expos, where they quite happily discussed the processes they go through to make their images presentable.

It takes many hours of work to convert the original images into acceptable clip-art libraries. Many of the pictures they would like to publish just can't be copied with by the current technology, as they would produce too large a file. They are waiting to output their libraries onto CD disks (which would increase their scope), but are held back because of the delays in producing a CD-Rom interface. This is always being promised, but never appears - and small firms like this cannot afford to invest in developing the technology. Everyone is waiting for it, so when will it appear? It has been available on the Apple II's for years, and we have all heard of the Doomsday Project which uses CD-Rom technology on the BBC, so why not the Mac? Is it because Apple are still weak in the educational market?

As Apple are supposed to be concentrating on Desktop Communications, this year, when can we expect to see some developments in this important area?





A review by Irene Flaxman

LaserSpeed is a software print spooler for the Macintosh, complete with print-queue management. What is a print spooler? A program that allows you to continue working as soon as the temporary print file has been created, rather than waiting for the full printing process to be completed.

In LaserSpeed, we have found a spooler for the LaserWriter which will cope with PageMaker files. Admittedly, PageMaker v2.0 is reportedly compatible with other spoolers, but we won't know for certain until we see it - and that date keeps going further back.

I have tried a number of laser spoolers, and I have always felt frustrated that I couldn't use them with PageMaker. I have asked the reason why there is this shortcoming. I have always been told that this is because PageMaker does not use the standard Macintosh interface rules, so it is not compatible with other programs. Hence, the need for the special 'Aldus Prep' file that is supplied with PageMaker - it does not use the standard 'Laser Prep'.

So, why is LaserSpeed different? I asked Think Technologies - and I was told that they have been able to accommodate PageMaker because the program is written in Think Technologies' LightSpeed C programming language, and (by knowing how PageMaker addresses the printer) they were able to develop a spooler which would accommodate it.

Before you can use LaserSpeed, you must install it into your system. This is a simple matter of dragging two files into the system folder, and running the Installer program supplied on the disk. You then restart your Macintosh, to find that a new desk accessory has been added to your Apple menu. This new DA will allow you access to the LaserSpeed spooler.

Having opened the DA, you will be presented with a table of options for controlling your printing and another table is provided for the display of information about the spooled output.

Even LaserSpeed differentiates between PageMaker and other applications - so you see that they have not changed the problem, but they have provided an acceptable solution to the problem. A new 'LaserSpeed' menu appears at the top of your screen. Three new menu options are available - you can specify the disk that you want to use for storing your spooled output pending printing ('Change Disk...'), you can choose the 'Prep' file you want to download to the LaserWriter ('Prep Laser' or 'Prep Aldus').

You do have to specify whether the file you are spooling is a PageMaker file or is one from a 'standard' application. If you do not specify the correct file type before you try to send a file to the spooler, the action will fail and an error message will be displayed. You then simply use the LaserSpeed menu to choose the correct prep file before spooling your output.



The main display is split into four parts - a set of six buttons, a display area to show the spooled output, and a display area to show the progress of printing. The six buttons allow you to:

- Print spooled output while I work
- Stop spooling
- Remove output
- Notify start of printing
- Notify end of printing
- Cover page

The purposes of some of these are self-evident. The first will print the spooled files in the background whilst the system is freed for you to carry on working. The second allows you to choose whether you want to spool your output or print direct - I leave this deselected as a matter of course (i.e. use the spooler). The third allows you to delete a selected file without printing it, the button only becomes active when you have selected the file to be removed. The fourth and fifth will display a message on screen whenever the printing of a document is started or ended respectively. The final button will allow you to print out a cover page before each document - useful if several people are using the same LaserWriter, and particularly if the printer is in a central location and has to be distributed between the users.

To use the spooler, deselect the 'Stop spooling' button. Then, whenever you use the 'Print' instruction from your application, a temporary print file will be written to disk as usual. However, the system is returned to you as soon as the file has been created so that you can carry on working. In the meantime, the spooler works away in the background to complete the printing (assuming you have selected 'Print spooled output while I work', of course!).

If you wish to view the current status of the print queue, select LaserSpeed from the Apple menu again. The names and source applications of any spooled output will be listed in the right-hand window. If you wish to change the priorities of the spooled documents, you simply drag the document's name to its new position. The status of the current printing will be shown in the lower box - this shows the % transmitted and the time taken to transmit the data to the printer, giving you a good indication of the time outstanding for the job. If you shut down before you have printed all your output, you will be asked whether you wish to print the documents as soon as you switch on your Macintosh.

I used LaserSpeed with a hard disk, but this is not mandatory - you can install on floppy disks. You must allow 65K for the software itself, in addition to space for the temporary storage of spooled output (a minimum of 75K to 150K is suggested).

LaserSpeed costs £99 + VAT, and is available from MacSerious - see the back cover for his address.



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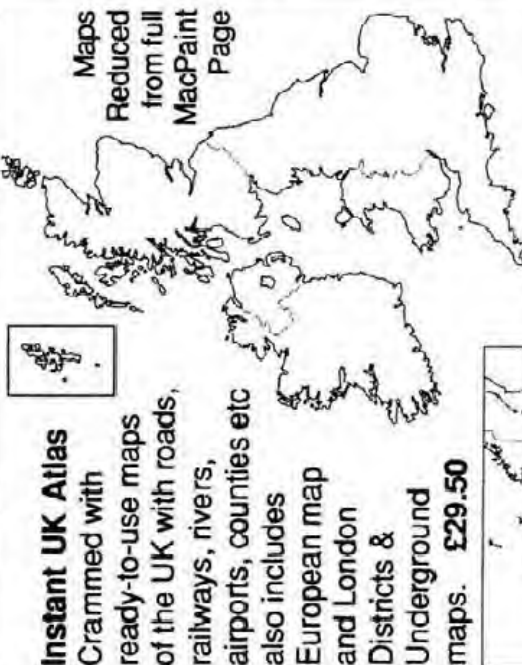
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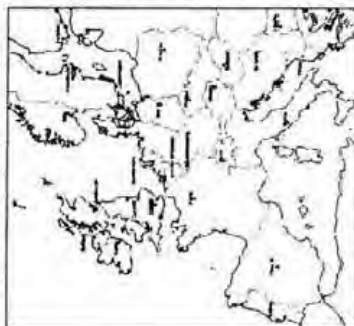
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EXCELLERATE

Reviewed by Irene Flaxman

Personal Training Systems produce a set of 8 training modules for using Microsoft's Excel, and three for Microsoft Word. I checked out the Excellerate modules as the basis for this review, but no doubt the LearnWord3.0 are of the same standard.

The basis of learning is a self-teach tutorial on audio cassette, using a set of examples on disk. They take you from the first principles of using a spreadsheet in general, and Excel in particular, right through to advanced techniques, such as consolidations and using macros.

Each module contains a Command Summary Card, an Examples Disk, and an Audio Tape. Each can be completed within an hour, depending on your speed and understanding. You can, of course, go back over any points you don't understand, so your progress will be at your own pace.

To complete the training course, you need:

- 512k Macintosh or Macintosh Plus
- 2 Floppy Disk Drives
- Printer
- Tape Recorder / Player
- Microsoft Excel
- Excellerate Training Package

They use a classic approach to training: Say what you're going to say; Say it; Say what you have said.

You are guided through your chosen topic, step-by-step, using the examples on disk. The first stage is to look at a completed spreadsheet - the one that you are going to create during the ten lessons that follow on the rest of the tape. This gives you an opportunity to look through the various parts of the work, to see what is achieved by Excel and how it is achieved. This is the classic approach to systems analysis - always decide first what you want a program to do, so that you can work towards achieving the desired result. Unless you know what you require as output, you cannot plan your input, and this important point is made right at the start.

The audio tape guides you through the steps necessary to create your spreadsheet, pausing to allow you to perform the various actions required. Occasionally, you will be asked to turn off the tape player, as the waiting time would be too long (e.g. when printing).

At the end of each lesson, the instructors summarise the topics covered, to ensure that the information has been absorbed and understood. Each lesson progresses you a stage further in the learning process, until you are quite familiar with

how to use the program. If you don't understand a section, just go back and work through it again.

The last stage in the learning process is to try using the program without guidance. An example is included on each disk, without the step-by-step guide, so that you can practise your newly-learned skills. This final exercise requires you to perform various functions - you are told what to do, but not how to do it. You are invited to turn off the tape player while you complete the various tasks. When you turn it back on, the first comments will tell you where to find help, should you be having problems - you can then go back to review the relevant lesson.

The Excellerate training modules cover:

- 1 Fundamentals of Excel
- 2 Creating Business Graphics
- 3 Adding Power To Your Spreadsheet
- 4 Building and Using Databases
- 5 Building and Using Macros
- 6 Linking and Consolidating Spreadsheets
- 7 Advanced Spreadsheet Formulas and Techniques
- 8 Advanced Macro Techniques

Quite comprehensive, they cover all the basic areas of using Excel, and are a great aid to learning.

Personal Training System's new range of products offer the same service for users of Microsoft Word. I haven't seen these new products, but I hope that they are as good as the Excellerate series. The three LearnWord3.0 training modules are:

- Beginning course
- Intermediate course
- Advanced course

Starting with the basics of using the program, including tabs, borders, boxes, etc - through to advanced techniques of creating indexes, linking documents, using hidden text, etc. I have to admit that the LearnWord modules would be a better test for me to take - although I took to Excel quite happily, I find Word more difficult to cope with, so I have more to learn there.

I found the Excellerate modules easy to use and understand, and they covered the program comprehensively. I do like this method of learning, when each person can take the training at their own pace to get the most out of the program. I haven't seen any other products of a similar type, and find that surprising. When you consider the cost of the software, you need to be able to use it effectively in order to justify the investment, and these modules can help you to achieve that.

We have no details of a UK distributor, but the modules can be purchased directly from the States at a cost of \$39.95 (plus P+P) for the Excellerate modules and \$49.95 (plus P+P) for the LearnWord3.0. The publishers are:

Personal Training Systems
P.O. Box 54240
San Jose
CA 95154
USA



101 MACROS FOR EXCEL

A review by Michael

Did you, like a lot of other people, buy EXCEL because you wanted a good spreadsheet, database and were lured by the promise of the Macros, which would help you to automate your spreadsheet?

After a slick demo from the MICROSOFT people at the Personal Computer World Show last year it looked as if it was just what I wanted - not at all as complicated as OMNIS, in fact easy to use.

When I received a copy from our local dealer it was quite easy to develop a simple spreadsheet, however on opening the manual on Macros I discovered that it was in pure Chinese. There was a section giving the different commands and some sample Macros, but as to how they were constructed (or why they did what) was difficult to understand. Enquiries of the local dealer didn't help - they were not much wiser either.

The result was that for a long time I used the spreadsheet but ignored the macros and searched around to see if anybody produced a book or demo Macros on disk which would explain in an intelligent way how to use them.

I have now a number of books and demo disks which have enabled me to become proficient in the use of Macros. 101 MACROS FOR EXCEL consists of a disk and a well produced Manual which is clear and easily understood (written by a literate person and not a series of notes written by a programmer as an aide memoir). It consists of a series of general Macros ranging from the very simple keystroke and mouse saver to quite advanced looped and interactive programs. The Manual is so designed as to gradually increase your knowledge and the complexity of the Macros in an easily absorbed and understood way.

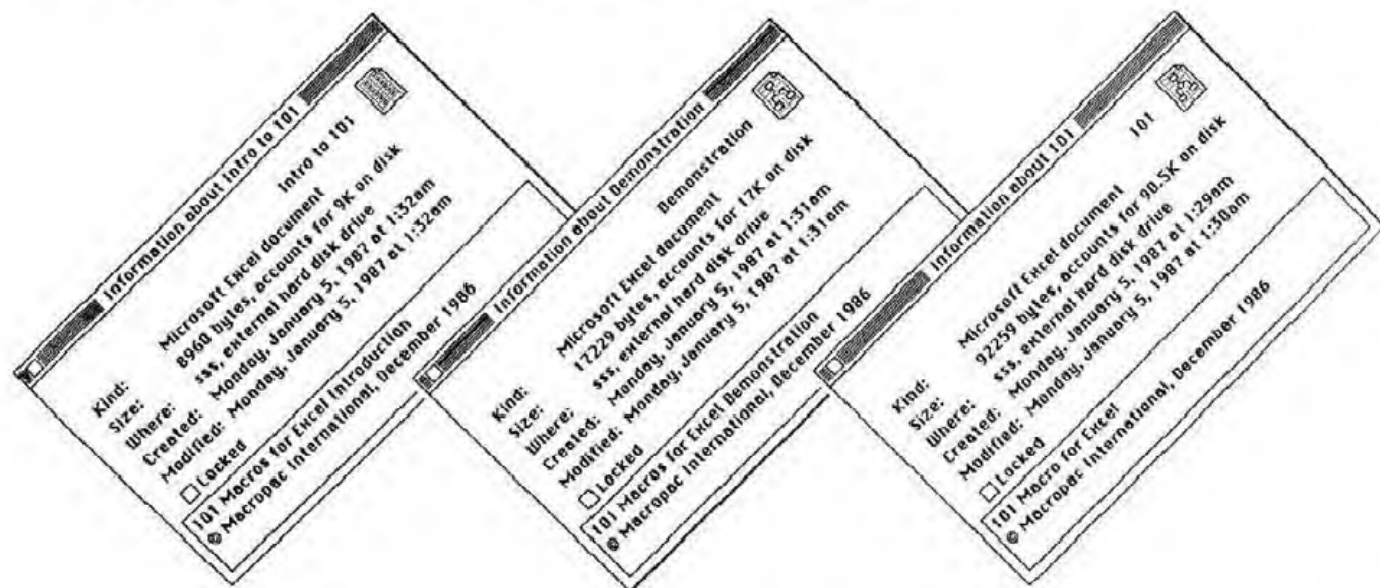
Besides the Excellent Instruction Manual all the examples are annotated on each line to help you to understand what is going on and why. They are a collection of generic Macros which you can use straightaway or use in various combinations to construct Macros to solve your individual problems. The initial chapters in the book give a simple definition of a Macro and it's usage, then progress to Macros which save mouse movements. Later chapters handle Display and Window control Macros followed by Editing, Formula, Table, Printing and Saving Macros. Further chapters give

Database, Charting, Calculation, Protection and Cell Identification Macros. The final chapter contains the most complex Macros for Financial Functions, Time Stamping Worksheets and many others.

It's worth buying this package just for the Slide Show Macro included in the last chapter. This could be used to illustrate complex Macros or as a way to provide an interactive instruction for new users of involved automated spreadsheets of databases. This package contains 1285 lines of Macros together with comments and so is very good value for money for people wishing to understand and use the power of Macros. Also on the disk is a demonstration of some of the Macros using the Slide Show Macro which well illustrates the use of the Macros available in this package.



101 MACROS FOR EXCEL
MACROPAC INTERNATIONAL
19855 Stevens Creek Blvd
Suite 168
Cupertino, CA 95014
USA



From Delphi

From: RICKLEPAGE

Subject: **Initialize?**

I have a Dataframe 40XP that got trashed over the weekend, and it won't respond to any of the tried and true recovery tools (Fedit, Disk First Aid, Mac Tools, etc.) Whenever I boot my Mac with it attached, I get the "This is not a Macintosh disk. Do you wish to initialize?" dialog box, which has a Cancel and Initialize button. I am not too optimistic about getting my disk back the way it was, but I have two files that had a major amount of work done on them right before it crashed.

My question is this? If I initialize, will just the directory blocks get erased, leaving my data floating in pools that can be collected (painstakingly) with Fedit? Or does initialize do a bit more? Any help anyone could provide would be a big help. Rick

From: BRECHER

Subject: **Initialize?**

Responding OK to that alert will rewrite the "directory"; it will not erase other areas.

From: JEFFS

Subject: **MPW 1.0.1**

Good News: I received MPW 1.0.1 and MPW C from APDA yesterday.

Bad News: I was under the impression that they would be distributing the "final" product and "final" manual. It seems you get the final product but NOT the final manual. The manual, marked APDA Draft, does *not* have an index, does *not* have the final figures and does *not* have a complete table of contents. The TOC only numbers (handwritten) the page numbers of the major sections.

I suppose you get what you pay for (free update) but somehow I feel cheated. I ordered MPW at work also, let's see if I get the same exact thing or they fill in the TOC and index for those people who didn't buy the second beta.

Jeff

From: MACINTOUCH

Subject: **Connecting typewriters**

Microsoft Word has drivers for typewriters and other printers. I've heard in the past that this is one of the best

ways of using a non-Mac printer successfully.

Ric Ford

From: PEABO

Subject: **Connecting typewriters**

The Microsoft Port Enhancer has been discontinued by Microsoft and SoftStyle is picking it up. SoftStyle has numerous printer drivers available.

Peter

From: MOUSEKETEER

Subject: **Bargain WP offer for Mac for \$29.00?**

Hi Bill, That would be Word Handler, published by Advanced Logic Systems, Inc., 1283 Reamwood Ave., Sunnyvale, CA 94089 (408) 747-1988. They have run ads in most Mac publications,

From: MACINTOUCH

Subject: **Mac discharges**

Does anyone have a good understanding of the best way to discharge the high voltage capacitors in a Mac prior to working on the internals? I've seen some people simply turn on the power switch in the back with the cord disconnected - I've also heard that Apple has a procedure for shorting the video circuitry to chassis ground.

What's the easiest, safest, best way to do it? Could the power supply be damaged by doing it incorrectly?

Ric Ford

From: MOUSEKETEER

Subject: **RE: Mac discharges**

EEEEEEK!!! Fried Ric!

And just what business do you think you have playing around in there!?!? (grin) Rumour has it that leaving Mac off for as little as 12 hours will bleed the high power caps. And shorting the main video lead to the shielding around the CRT itself leaves the caps empty.

But let me tell you a short little story....

Quite a few years ago, working on a power supply that had been removed from service many months previously, I reached across toward the caps. A little voice said "Stupid!", so I grabbed my favorite Xcelite screwdriver and laid it across the cap leads. That very screwdriver, it's shaft melted 2/3rd's through, now hangs on the wall over my workbench as a friendly reminder.

The easiest, safest, best way to work inside the Mac is to find a good service department and give it to them.

Alf

From Usenet

From: eacj@batcomputer.tn.cornell.edu

Subject: **Re: Surge Suppressors**

Recently there was a comparative review of surge/spike protectors in one of the IBM PC rags (sorry, I can't remember which one - they all look the same). Quite a few (10-20?) devices were tested with simulated glitches, and the article reported substantial differences in the effectiveness of the products. Some units provided legitimate protection, some were worthless, and I remember that there was



offering a copy of the \$79.95 program at \$29.95 if you send in your original MacWrite disk with the order. They also have offered to return your MacWrite disk if you return Word Handler and a small "shipping and handling charge". For several months, however, the ad neglected to mention that that "small" charge was \$25, and many folks were quite upset with the company upon learning of same (ya, a lot of people wanted MacWrite back after trying Word Handler). To be fair, the new ads for the program note the \$25 fee. And the most glaring of "Word Mangler"'s faults have been corrected, though I have yet to see a review that gave it more than a mediocre rating. So, ya, the offer is real, in a way. "Great offer" maybe not, but an offer nonetheless. If you take them up on it, I have a bridge up in a populous New England borough I'd like you to see.....grin.

Alf

at least one unit that INCREASED the risk of surge damage: it caught on fire! The authors suggested that different types of components are needed to protect against different types of power line disturbances (surges, spikes, RFI, etc.) and that the better boxes contained a variety of devices: RLC filtering, MOV spike absorbers, gas discharge cells, relays, etc.

One unit that was recommended was the Datashield model 100. This comes with 6 outlets, 2 of which are "super-filtered", and has a total capacity of 10 amps. It also has a brown-out alarm, and a switch for manually resetting after it trips out. The manufacturers claim that this allows you to avoid the burst of dirty juice that often comes when the lines come back on after a power failure. Price is about \$75-100 (depending on source).

Feeling superstitious, I bought a couple for my lab. Do they work? I don't know, but they haven't burst into flames yet.

Julian Vrieslander

From: howard@amdahl.UUCP

Subject: Re: **ChipWits**

In article <897@uwmacc.UUCP> dubois@uwmacc.UUCP (Paul DuBois) writes: > >Here's another reason not to get a ROM upgrade: ChipWits doesn't >work with the new ROM. Does anyone have a patch to make it work, >or is it hopeless?

It is not hopeless!! Chipwits will work under the new ROMs, just strangely. The way to do it is, make an MFS Ramdisk (or floppy I guess) with a System and Finder so it will be the Startup disk. When Chipwits is double clicked, it will clear the screen and seem to hang. Clicking the mouse seems to get it going (don't ask me why). I have successfully run Chipwits this way. Give it a try and let the net know the results, maybe I'm just a unique case or something. (no cracks please)

Howard C. Simonson

From: davej@entropy.ms.washington.edu

Subject: Re: **ChipWits**

Registered owners of ChipWits may return their original disk to Brain Power and receive a version that runs on the Mac+. I did, it works.

Dave Jenner

From Info-mac

From: Mark Nodine

Subject: **Protection of Excel Formulas**

In the Format menu, there is an item called Cell Protection... If you open this

up, you have a choice of whether the cell should be protected or whether the formula should be hidden. The default is protected/not hidden. These states do not take effect until you choose Protect Document... from the Options menu. Simply hitting a return will create a document protected with no password.

So, to create the form you want, select the cells which are allowed to be modified, choose Cell Protection... and un-choose the Protected option. Then choose Protect Document... and everything will be set up.

Mark

From: maca.afcc@afcc4.ARPA

Subject: **Hiding Excel formulas**

Select the cell to have its formula hidden and use the Cell Protection option from the menus - click on the "hidden" box - OK Select the cells for which the user still needs access, choose the Cell Protection menu option and deselect the protected option. Choose the Protect Document option and protect your spreadsheet. Voila. Now check it out by selecting a cell with a formula you wanted hidden - it shouldn't appear in the command window anymore. If you didn't put any borders around the unprotected cells, you will now be able to spot the "open"/changeable cells with a dotted underline. I wish Excel had the same kind of password protection that Double Helix has, it would really be nice to create an entire work environment for someone (such as a client) which would be fool proof. Excell can still be diddled with in such a way as to confuse the user (windows off the screen - too many menu options for your specific sheet etc). I'd like to be able to just create a menu sheet of macros and that's all the user would have to fiddle with.... More than you asked for so I'll shut-up. Hope this helps.

From: <bouldin@ceee-sed.ARPA>

Subject: **TeXtures vs MacTeX**

In the Oct, 1986 Notices of the American Mathematical Society (pg. 741), there is a column on Mathematical Typesetting by Richard Palais. There is a general discussion of TeX, technical word processing on the Mac, and a comparison of TeXtures and MacTeX. His general conclusions were that TeXtures is the winner (so far) in the Macintosh TeX competition. TeXtures won in typesetting and previewing speed and ease of including graphics. MacTeX won in handling error messages from TeX. Both programs are validated by running the

trip.tex file for formatting, and so are guaranteed to be "full" TeX. I would be interested in hearing from anyone who has seen TeXtures and MacTeX running (side-by-side if possible).

From: cml5A9%irishmvs.bitnet@wisecvm

Subject: **Mac+ Keybd & Kermit**

First off, Yes MacKermit version .8(34) is the most recent, although the date might not make you think so. MacKermit hasn't seen a new release in quite some time. The reason for this is twofold. First, the people who worked on MacKermit are no longer at Columbia, second, MacKermit source is written for the SUMEX cross-compiler system. For those of you who have an extra VAX sitting around, that's great, but most Mac programmers don't. So:

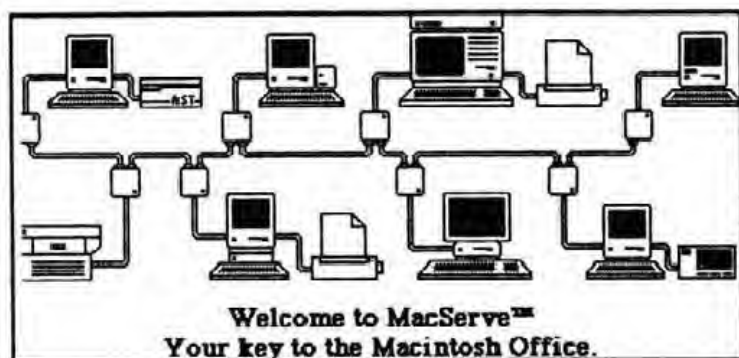
For the last two months I have been working on converting MacKermit over to MPW C, which basically consists of fixing the header files, silly calls that don't work, and trying to fix strange and wonderful things that the original authors were trying to do. If I have to get up on a soapbox about ints shorts and longs again, I'll scream. The MacKermit code isn't very neat, but I'll be the first to admit that my own code from that time frame was more sloppy. Actually, anyone's early attempts on the toolbox were likely to look a little on the messy side. All told, MacKermit is pretty well written. Once MacKermit is working as the SUMEX version did, then new and exciting improvements will be added. These include better keyboard/keypad support, gang file sends, better server mode, and automatic tek4xxx (insert your favorite number here) support. We hope.

All comments on MacKermit problems have been noted and will be fixed. Additional ideas, or possible programming support is, of course, always welcome. -Tom Dowdy

Info-Mac digests consist of submissions by individuals on the academic computer networks. Submission and distribution of these digests is by network, moderated by volunteers at Stanford University.

Usenet is a loosely-coupled network of co-operating academic and commercial computer systems. It is a non-profit network whose primary aim is the sharing of technical information and the spreading of research results.

Delphi is a commercial time-sharing and bulletin board system. The Delphi Digests are made available thanks to Jeffrey Shulman of Rutgers University. ☛



MacServe LaserServe

by Irene Flaxman

Infosphere's MacServe and LaserServe are complementary products, but they can be used independently.

MacServe addresses the need for a cheap method of networking several Macintoshes via Appletalk, so that the users can share a single hard disk. At £219 + VAT, it makes networking affordable for all - quite a contrast to the hardware disk servers.

Few applications are truly multi-user (indeed, the only one I know of is Multi-user Omnis 3 Plus), but it is expected that more will be released soon. Despite this, you may still find uses for a network system on your Macintosh.

MacServe is a software solution to networking requirements, the main function of the program is to run applications in the foreground of a Mac whilst simultaneously allowing the same machine to act as the 'server' for a local area network. Ancillary functions include the ability to partition your shared hard disk into up to 16 volumes; a choice of shared or private access to specific volumes; password control of specific volumes; disk caching; and spooling of output to a shared ImageWriter.

MacServe can support up to 16 'hosts' (or 30, if you have version 2.2), which can each support up to 32 'users'. I get the impression that you would find it very slow-running if you tried to have that many users simultaneously, though! As your network grows, you must pay more attention to the organisation of your hard disk to avoid undue processing delays.

MacServe will run on a Macintosh 512k (or later models). It requires a minimum of 200k of free disk space, with system 3.2 (or later) and finder 5.2 (or later).

It is necessary to install MacServe into the system of the network server's hard disk and into the system of each user's disk. Although the network server must be installed on a hard

disk, the network user systems may be housed on either hard or floppy disks. A separate copy of the program must be purchased for each network server.

The MacServe Installer application is used to install the modified system onto server and user disks. When installing on a floppy disk, open the Installation application and confirm that you want to configure this system as a network user only, type in your name as the user identification, and click the 'install' button to add MacServe resources to your system.

To install the MacServe resources into a hard disk system, you must hold down the command and option keys whilst you open the MacServe Installer application - this instructs the finder to modify the system on your hard disk. You choose between network user only or network server, type in your name and click on the 'install' button.

If you have specified that this disk is to be your network server, the MacServe Manager will also have been copied onto your disk. The next step is to configure your MacServe host. You must do this before you restart your Macintosh, so don't take a break. Opening the MacServe Manager will allow you to identify this as the network server at startup, to identify the resources that can be shared by the network users, and to create volumes on your hard disk (you can create additional volumes later, if you wish). This completes the configuration process - reboot your Macintosh, and MacServe will be loaded on startup, complete with a new MacServe desk accessory under the Apple menu.

I have to admit that I found all this very confusing - for once, I was forced to read the manual and take it step-by-step. However, the manual is well-written, and there is an on-screen Help facility if you prefer that (don't forget to drag the 'Help' file onto each system disk, though, if you want to use the facility).

Once installed, you have no further worries. The MacServe Manager allows you to view the Appletalk devices available to the system, to view the MacServe users, to view the print jobs and view volume names, and is used to perform the various 'housekeeping' functions, such as changing your user name, changing printing priorities, etc. although some functions (e.g. changing the Master Password, creating new volumes) are restricted to use by the network server, and others (e.g. deleting a spooled print job) are restricted to use by the network server and the originator.

Set the 'startup options' using the MacServe Manager. These will control the procedure followed whenever you use that disk to boot your Macintosh, and a screen message will advise you whether MacServe has been loaded, and whether it has loaded as a networker server or a network user. Normally, the startup options will specify that you wish MacServe to be loaded at startup, and you may also specify whether you want a volume to be opened automatically at this time.

In your day-to-day use of the network, you will use both the desk accessory and the MacServe Manager. The desk accessory is used to select the volume(s) you wish to access on the hard disk and to select the printer or spooler you wish to access. The Manager allows you to check the position of your print jobs in the output queue, and to cancel your last job or change priorities.



When you open the DA, you are presented with a list of volumes available to the network, and you can scroll through a list of available printers (including the ImageWriter spooler, if this is active). Your output will be sent to the printer or spooler that is selected when you quit from the DA. To gain access to the volumes you want to use, select a volume name and click on 'private' or 'shared' access for each, then 'quit'. You will be returned to the desktop, and a new icon will be shown for each volume you have chosen. These are then available for your use, in exactly the same way as a floppy disk would be - open the icon to see the files contained therein.

You must select private access the first time you use a volume, so that it can be created. Selecting private access allows you to write to the volume, but excludes all other users from accessing it until such time as you 'release' it via the DA. Selecting shared access will allow 'read only' access to the volume, but it will remain available for all users to select.

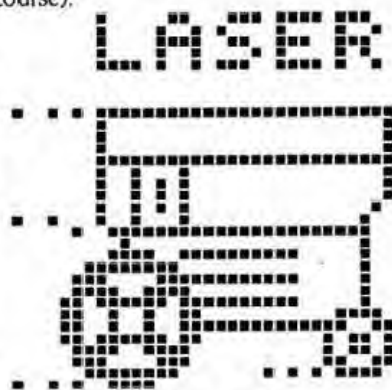
With any network system, security is always of paramount importance, and the contents of any volume can be protected by use of a password. Also, the Manager includes an archiver, which allows you to back-up the contents of your hard disk, provided it is configured under MPS - HFS is not supported, due to lack of information from Apple, apparently. Backups may be either a full or partial (i.e. only those files which have altered). The destination of your copy data may be floppy disks, in which case you will be prompted for a new disk as each is filled, and each will be named (and sequenced). You would be required to present them in the correct order should you need to restore your data, so mark the disks carefully.

I found the program easy to use, once I had installed it. Each volume is treated as a separate diskette, but sizes can vary according to your needs. It is very important that you structure your hard disk correctly, or you may find that users are queueing for a particular volume. It is worthwhile spending some time initially, analysing your needs before creating volumes - the manual gives some useful advice on the considerations you should bear in mind at this time. It is also worth noting that the volume sizes cannot be amended, once they have been set - if you need

to increase a volume's size, you must create a new one, 'drag' the data over, then delete the old volume.

I found no noticeable difference in the processing time at the 'host' Macintosh, but I did find that it was slower to use software on the shared hard disk from a remote Mac - I tried this with Apple Accounting, using two Macs each having private access to a separate volume containing a copy of the software - the remote usage was much slower than that of the host, which automatically has priority. This is to be expected, though, as the system can only perform one task at a time, and has to prioritise the tasks in hand.

I still feel that networking has a lot to offer, in a business environment. It allows you to share software and data, and it allows you to make use of electronic mail facilities (assuming that you have the correct software, of course).



LaserServe is Infosphere's answer to the need for a software spooler for the LaserWriter (or Appletalk ImageWriter), costing £109 + VAT. Minimum requirements are a Macintosh 512k with at least 800k of disk storage (or later models), 68k of free disk space, with system 3.2 (or later), finder 5.2 (or later), and LaserWriter 3.1 (or later). Print spooling will store the temporary print file to disk, freeing the system so that you can continue working whilst the printing process is completed.

LaserServe must be installed into your system as a desk accessory. A font/DA mover is included on the disk, so simply open this and install the DA on each system disk you want to use with the spooler. Drag across the LaserServe icon onto your system disk(s), and open LaserServe to complete the installation so that you can use the spooler via the desk accessory. I found the use of the spooler a little awkward, initially, but I worked through the short

tutorial at the start of the manual, and then had no further difficulties.

You must open the file called LaserServe before you can use the spooler, but this can be set to be opened automatically whenever you 'boot' your system. You then have access to the LaserServe desk accessory under the Apple menu. On opening this, you are presented with a window which is split into three sections: a scrolling list, a message field, and a set of icons which allow you to select/deselect the spooling functions, and to check the status of volumes, printers, and the print queue.

The contents of the scrolling list and message field will depend upon which of the three icons you have selected - jobs, volumes, or printers. Select the jobs icon to view the list of jobs awaiting printing or to change their priorities. Select the volumes icon to see the list of volumes available to house the temporary print files when they are spooled, and to select the one you want to use. Select the printer icon to see the current status of the job being processed, to delete or to restart the processing of the current job.

As with so many other desk accessories, LaserServe will not work with any programs that do not use the standard Macintosh dialogue when you send a file to print (e.g. MacPaint, PageMaker).

An additional menu is created at the top of the screen, when the LaserServe DA is opened. This allows you to: get information about your Appletalk printer; set a priority status on a particular job; create multiple copies of documents to be printed on an Appletalk ImageWriter (but not a LaserWriter); set the automatic restart option; see when a document has been printed; suspend spooling.

It took me a little time to really make effective use of the spooler, as I found some of the logic a little confusing. However, once I had solved my initial difficulties, I found it easy to use, and quite efficient. If you are using a LaserWriter, then certainly a print spooler is a good investment, and this is one of a number that will enable you to save time which would otherwise be wasted whilst you waited for your printed output to be fully processed.

MacServe and LaserServe, by Infosphere, can be purchased from your local Apple dealer at £219 + VAT and £109 + VAT respectively.



Stop the press for these important announcements.

Not PageMaker pages

Pages 60, 61, 63, 64, 66, 67, 70, 71 were compiled by Irene Flaxman using: JustText by Knowledge Engineering, available from MacEurope Ltd, 9A Lyne Court Lane, London NW9 8LG

The Adobe Garamond typeface used is available from your local Apple dealer.

MacMemories clip-art libraries, available from ImageWorld Inc (see p.63)

Postscript Programming

Please note that JustText is a program for use by professional typesetters. It is not a standard WYSIWYG package, and requires that you put some effort into learning it before you can properly utilise it - but it's worth the effort! A full review follows in the next issue.

Workshop2000

The workshop referred to elsewhere in the magazine will take place on Saturday 27th June 1987 at Elmgrove Hall, Walton on Thames.

Kick-off 10.00 a.m. until 5.00 p.m.

5 minutes walk from BR station.

10 minutes from M25/M3/A3/A30

A map of the location will appear in the next journal together with a confirmed list of seminars and experts.

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Phew! Things are moving so fast in the Apple world now I can hardly keep track. Since last year's promise of new exciting products, I have been holding my breath awaiting their arrival. Just as well that I own a portable air compressor, because it looks as if I am going to need it. The Mac SE is available but the rest of the recently launched equipment is a long way down the road, or as Apple says, were hoping for next month.

We have become accustomed to waiting for products from Apple, but unlike some of the software houses, they just about always deliver what they promise. Mac 'vapourware' was born from American magazine adverts offering products which were not available. Cash that was sent off for advertised products was sometimes even used to fund the actual unfinished development and further advertising of the product. In many cases the money or product was never seen again due to the collapse or sale of the original company. It is a sign of the times that the once powerful derogatory term of 'vapourware' has just become a cliché.

On the brighter side what a welcome surprise it was to hear and confirm that one of the largest software houses, Microsoft, had removed copy protection from all its products. I hope that all other companies will follow their bold lead and I for one, will personally recommend their products in favour of a comparable competitor. Now that hard discs are within reach of most users, hard disc crashes will become as common. Very frustrating if you have software with a limited number of hard disc installations. Ann Arbor found out the hard way with the 3 hard disc installs for 'Fullpaint'. A few disc crashes and you were back to inserting the master disc. It was not long after that all copy protection on that application was removed. Pirate copies, with or without protection, will always circulate, however unprotected software will make living with application and hard disc crashes, easier to bear.

This week I came into contact with the first Dongle on the Mac. 'Architron' a French architectural program that actually called it a 'Dangle' in the manual. It connected onto the external drive port and worked by some means of resistor check. On booting the application, the screen staggered and the Mac groaned with a buzz. A pity as the software was impressive. Apple must of seen it coming as it refused to work on a SE.

In our struggle for a better deal as users we need to keep up the pressure and discussion of the joys and nightmares encountered in our day to day conflagration with data. Life with silicon is not easy, computer widows are on the rise and opticians are booming. We need all the help we can get. We might be called rumour mongers, but it is all part of the user speculation and hope that in some way we might be able to influence the production of future products.

How about a cheap laser for a start!!



Great news for Macintosh users... ...Even better news for Omnis users

If you're not yet an Omnis user, you can't fully appreciate the combination of power, ease of use and adaptability that makes Macintosh work for your business. The latest Omnis news gives you even more reasons to ask your dealer to show you how Omnis works for business.

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SuperPaint is the most advanced graphics creation tool available for the **Macintosh**. It has two layers: one for editing dots like MacPaint, and one for manipulating objects like MacDraw. The features read like a Christmas wishlist. Full-screen editing. Multiple windows. 3 levels of magnification. Reduced view. Creates shapes bigger than the screen. Draws circles and squares from the centre. Text can be edited. LaserWriter Fonts. Open and save MacDraw PICT and MacPaint files. Print multiple copies. Colour printing on ImageWriter II. Makes full use of big screens.

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"I can really review **SuperPaint** in two words: Get it!"

- Sharon Aker, MacUser (US), Feb '87

"**SuperPaint** is the hottest graphics package currently available."

- CJ Weigand, MACazine, Jan '87

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The MacSerious Top 10

- 1 SuperPaint
- 2 WriteNow
- 3 Dark Castle
- 4 MacGolf
- 5 Lightspeed Pascal
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- 8 More
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- 10 Silicon Press

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